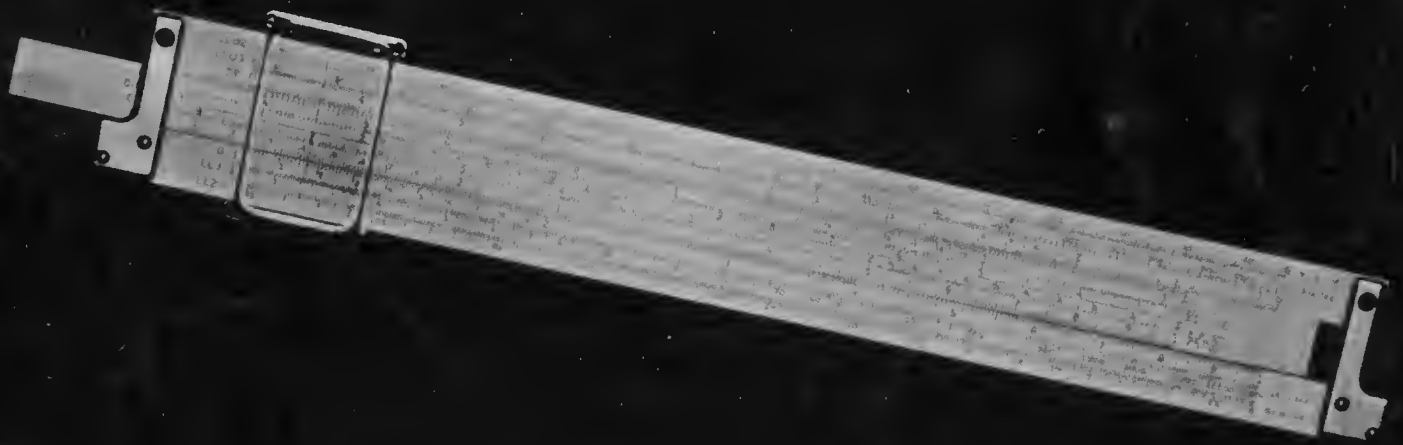


SLIDE RULE



VOL. 26
MARCH, 1960

UNIVERSITY OF MANITOBA ENGINEERING SOCIETY PUBLICATION

Faith of the Engineer

I AM AN ENGINEER. In my profession I take deep pride, but without vain glory; to it I owe solemn obligations that I am eager to fulfill.

As an Engineer, I will participate in none but honest enterprise. To him that has engaged my services, as employer or client, I will give the utmost of performance and fidelity.

When needed, my skill and knowledge shall be given without reservation for the public good. From special capacity springs the obligation to use it well in the service of humanity; and I accept the challenge that this implies.

Jealous of the high repute of my calling, I will strive to protect the interests and the good name of any engineer that I know to be deserving; but I will not shrink, should duty dictate, from disclosing the truth regarding anyone that, by unscrupulous act, has shown himself unworthy of the profession.

Since the Age of Stone, human progress has been conditioned by the genius of my professional forbears. By them have been rendered usable to mankind Nature's vast resources of material and energy. By them have been vitalized and turned to practical account the principles of science and the revelations of technology. Except for this heritage of accumulated experience, my efforts would be feeble. I dedicate myself to the dissemination of engineering knowledge, and, especially, to the instruction of younger members of my profession in all its arts and traditions.

To my fellows I pledge, in the same full measure I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the standards and the dignity of our profession; with the consciousness, always, that our special expertness carries with it the obligation to serve humanity with complete sincerity.

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THE UNIVERSITY OF MANITOBA ENGINEERING SOCIETY

SLIDE RULE

VOLUME 26

MARCH, 1960

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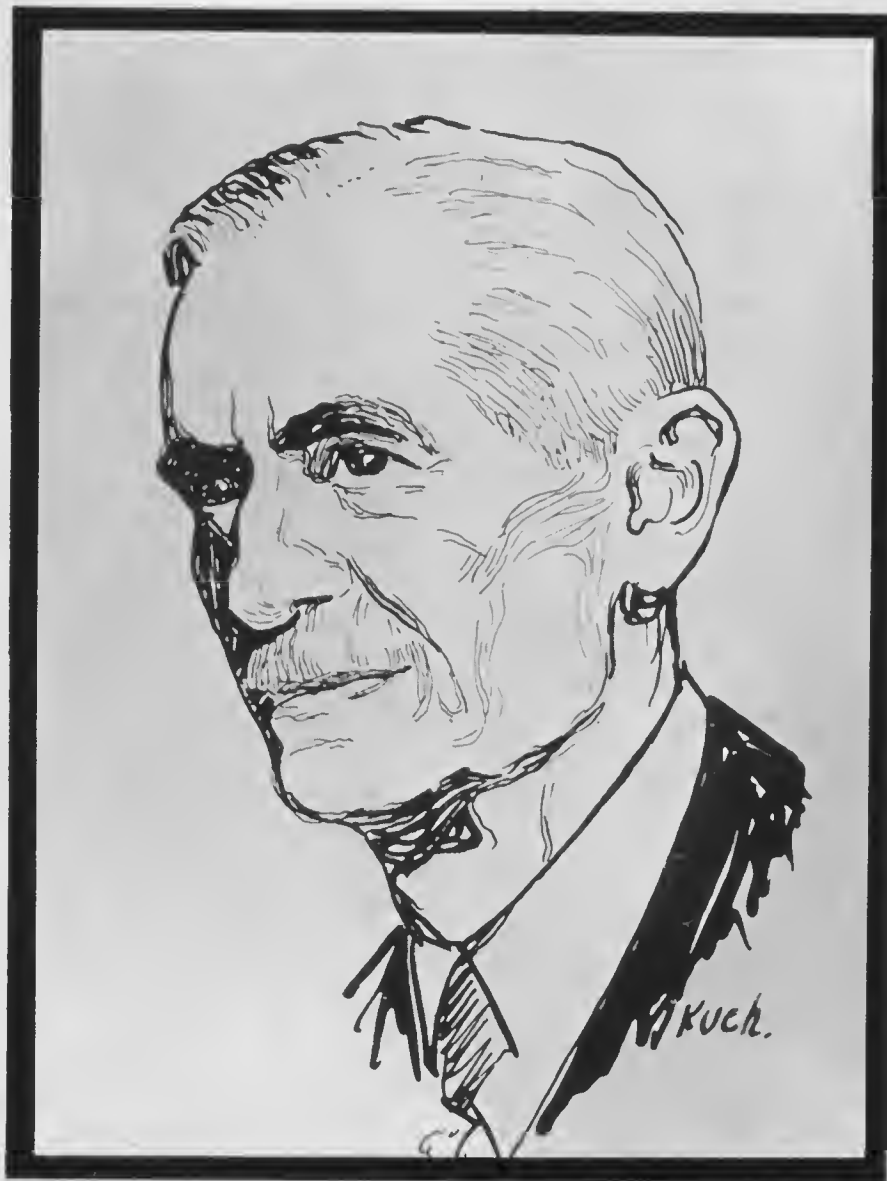
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In Appreciation of the Late Dr. E. P. Fetherstonhaugh

The Faculties of Engineering and Architecture has experienced the great loss of a staunch friend and past associate in the death, on October 19, 1959, of Dr. Edward Phillips Fetherstonhaugh, M.C., B.Sc. (McGill), D. Sc. (McGill), L.L.D. (Man.), M.E.I.C., M.A.I.E.E., P.Eng., Professor Emeritus of Electrical Engineering and Dean Emeritus of Engineering and Architecture, The University of Manitoba, since 1949; Professor of Electrical Engineering for 40 years, from 1909, and Dean of the Faculty of Engineering in 1921-22 and of the Faculty of Engineering and Architecture from 1922 until his retirement in 1949.

The Faculty desires to express its appreciation of Dr. Fetherstonhaugh's great personal interest in members of the staff and of the contribution made by him through his interest, initiative and assistance, in many diverse ways towards improving the teaching curricula and physical plant in connection with the various courses offered within the Faculty.

The termination of Dr. Fetherstonhaugh's tenure of office in August, 1949, at age 70 coincided with the opening of the new north wing of the Engineering Building. In addition to his many graduates in Engineering, the Fetherstonhaugh High Voltage Laboratory, which was officially opened in 1957 at the time of the Golden Jubilee of formal Engineering instruction at the University, stands as a solid monument to honour his name.



THE DEAN'S MESSAGE

by

Dr. A. E. Macdonald, B.Sc.(C.E.), M.Sc., D.Eng., P.Eng., M.E.I.C.,

Dean of the Faculty of Engineering and Architecture



DR. A. E. MACDONALD

Education is our business, and Engineering Education our avocation. The latter may give the impression that material things only are our goal, but this is far from true.

It was nearly a century and a half ago when Thomas Tredgold, the first head of The Institution of Civil Engineers of Great Britain, defined Engineering as "... the art of directing the great sources of power in Nature for the use and convenience of man; ...", a definition which, with doubtful improvement, has been examined and rewritten many times since, resulting in the most recent that: "Engineering is the application of science and art to the economic utilization of materials and forces in conjunction with the organization and direction of essential human skills." The Scientist is interested in the forces of Nature, but the Engineer is primarily interested in the needs of man. This latest definition therefore would seem to be deficient, for the needs of man are not included.

Many years ago, Plato gave his view that health, beauty, wealth, power and other things are ingredients in happiness, but are neutral before education, which teaches how to use them. Your great opportunity is to study and make use, in the very best way, of what you can learn. Mere knowledge is of little value, except as it may be used to unlock the doors to the development of understanding and judgment.

Very naturally, your professor friends are vitally interested in your success, first as students and second as graduates. Whatever your present status, success in any endeavor appears to be based mainly on motivation, responsibility and hard work. You might ponder the advice of the first Henry Ford: "Make your program so long and so hard that the people who praise you will always seem to you to be talking about something very trivial in comparison with what you are really trying to do." Or, to be more timely, in "Friends," Lord Beaverbrook quotes Lord Bennett's choice for poetic self-expression:

"The heights by great men reached and kept
Were not attained by sudden flight,
But they, while their companions slept,
Were tolling upward in the night."

Following the last war there was, on this continent, a wave of anti-intellectualism resulting in the term "egghead" as a label of ridicule. While not only injurious to the public welfare and the true enjoyment of the finer things of life, it is now positively dangerous in view of the grim contest with a skilful and ruthless antagonist which has not burdened itself with this liability.

Although the "common man" is our concern and although we must strive to get along amicably in groups, the "uncommon man" is our great need. Perhaps 85-year-old Herbert Hoover, Mining Engineer and one-time President of the United States of America, might rate some attention and consideration for his observations that the current concern with the "common man" glosses over the fact that "when we get sick we want an uncommon doctor. When we go to war, we yearn for an uncommon general or admiral. When we choose the president of a great university, we want an uncommon educator . . . We need men and women who cannot be intimidated, who are not concerned with applause meters; not those who sell tomorrow for cheers today."

American Herbert Hoover, Mining Engineer, and Canadian C. D. Howe, Civil Engineer and presently Chancellor of Dalhousie University, are but two examples of great Engineers and "uncommon men" who have been one with Henry Ford's advice, to the marked advantage of their respective countries and to the "common man" from whom has sometimes come ill grace during their two lives. I urge upon you to study the biographies of such great men and benefit from their achievements and failures, ever mindful of the observation of Edmund Burke that: "There are critical moments . . . when they who are too weak to contribute to your prosperity may be strong enough to complete your ruin."

THOUGHTS OF AN OLD GRADUATE

From

COL. E. J. W. AKINS, Honorary President U.M.E.S.

Whether you agree or not is immaterial
THAT YOU THINK IS VITAL



COL. E. J. W. AKINS

OUR UNIVERSITY

Canadian Universities today are one of the major concerns for our future National Welfare.

In three decades our University has grown from a few pupils with a few dedicated teachers in poor accommodation scattered throughout the City to the University we now know with its thousands of pupils, hundreds of teachers and modern (one might even say by comparison luxurious) accommodation situated on one Campus.

A University Education once considered a privilege available to a few and worthy of much sacrifice on the part of the parent and the student is now almost considered a **RIGHT** which should by some means or another be made available to every pupil capable of absorbing the required knowledge.

It is argued that Democracy and our future welfare both demand this opportunity and that this point of view has many strong Arguments cannot be disputed.

BUT

IS IT POSSIBLE: That this brings about great pressure to lower standards? We are even now investigating high failure rates.

IS IT POSSIBLE: That obtaining a degree is now being considered an end in itself? The degree in itself is very little. It is merely the letter of recommendation. Personal initiative, integrity, ability and application bring success.

IS IT POSSIBLE: We are neglecting so called secondary education? Is there a tendency to expect our University to do work that should more properly be carried out by a Technical College?

WHAT ABOUT THE STUDENT WHO FOR ONE REASON OR ANOTHER CANNOT OBTAIN HIS DEGREE? It is still possible for him to lead a happy, useful, productive, even inspirational life.

The enquiring mind trained to access facts is more important than the degree.

Integrity is more important than knowledge.

The sum total of knowledge particularly in scientific and technical subjects has increased to such a degree in the past two decades that this has become an age of specialists. It would appear therefore that the sooner a student knows what particular field he wants to enter the better his chances in that field.

THE ENGINEER'S JOB

An Engineer is concerned with the practical application of theory.

By supplying facts and figures he eliminates guess work and is able to build a solid foundation for the realization of ideas.

He is a practical man who turns dreams into realities.

CHOOSING A JOB

Do not let the **False Idol Security** be the major factor in choosing your life's work, for down that road lie discontent, stifled ambition, disillusionment, boredom and even poor health. Rather, choose a job that interests you, presents a challenge to your ability, gives you the opportunity to use your imagination and your professional knowledge.

A job should have a future, i.e. Hard work coupled with ability should bring advancement.

Some firms, as a policy, pay starting wages slightly below the going rate. They believe this to be an additional insurance that the applicant is interested in their type of employment, and that this also allows for a training period or course.

Starting wages, though important, should not be your main consideration.

THE ENGINEER'S FUTURE IN CANADA

Canada is expanding at an almost unbelievable rate. From a predominantly agriculture nation Canada is changing to one of the great trading nations of the world.

The demand for Engineers is geared directly to industrialization and expansion. Our changing economy demands more Engineers and men with technical knowledge and "Know How" than we are producing. We are therefore importing them from the U.S.A. and from Europe.

Keen competition forces the discarding of uneconomical practice; encourages the adoption of new ideas and creates a need for Engineering skills.

There are many problems to solve and there are as many opportunities as there are problems.

Example 1—Possibly the biggest problem of the near future is: How to meet world competition in the goods and services we have to sell. Because we cannot lower our standard of living to meet the cheap labour rates of the over-populated areas of the world we can only hope to meet this competition by advanced scientific knowledge and more efficient methods and machinery.

Example 2—In developing our natural resources we must find answers to the following:

- (a) The best method of harvesting the particular natural resource, water, oil, mineral, plant, etc.
- (b) Supply an economical means of transportation.
- (c) Supply necessary factories to change natural resource into marketable form.
- (d) Supply suitable living accommodation for the workers at each of the above steps including power, water and sanitary facilities.
- (e) Conquer northern climatic conditions.

These challenges must be met and solved by the students of today.

Canada is no longer merely content to follow the U.S. and Great Britain. But is taking the lead in some important Engineering Developments.

Example—St. Lawrence Seaway; Aluminum Development, Kitimat, B.C.

THE ENGINEER AND THE PUBLIC

Having supplied the facilities and in fact having paid the major share of the cost of his education, society has the right to expect a return on this investment.

Amongst other things they have a right to expect that the Engineer will:

- (a) Have an informed opinion based on facts about the important issues in his community and that he will express these opinions openly and fearlessly.
- (b) Share his practical approach with his neighbor by active and unselfish participation in those works that are for the benefit of his community or society as a whole such as Charity, Trade Associations, Professional Societies, Civic Betterment, Church, Labour relations, Education.
- (c) Maintain and increase the respect for his profession by his integrity, by never doing shoddy or slipshod work, by a constant endeavour to overcome prejudice and base his decisions on facts, by giving full value to his clients.
- (d) Encourage cultural development.
- (e) Do his share to provide the best possible educational facilities for future generations.
- (f) Assume his political responsibilities.

A CLOSING THOUGHT

I wish each student an interesting and challenging job, a loving and happy family, and a place of respect in the Community in which he chooses to live.

A GREETING

from

The Association of Professional Engineers and The Engineering Institute of Canada

By: W. L. Wardrop, P. Eng., M.E.I.C.

President, Association of Professional Engineers of the
Province of Manitoba; Chairman, Winnipeg Branch of
the Engineering Institute of Canada.



W. L. WARDROP

On behalf of the Association of Professional Engineers of the Province of Manitoba and the Winnipeg Branch of the Engineering Institute of Canada, it is my pleasure again to bring greetings to the Engineering Student Body.

To you who will shortly have the honour of being a member of the 1960 graduating class, I wish you a career filled with rich rewards. You have chosen a good profession and there is every indication that Manitoba will provide ample opportunity in the years ahead for you to achieve a reputation and standing amongst your fellow engineers. With the prospects of a Nuclear Research Centre on the Winnipeg River, a multi-million-dollar Hydro-Electric Development at Grand Rapids, and a major Flood Diversion Channel around Metropolitan Winnipeg, there can be little doubt that the opportunities will be great in this area for the young engineer willing

to devote maximum time and energy to his profession.

Graduation marks the end of your formal education and the beginning of a period for acquiring practical experience. To some this transition will be easy, to others it may be somewhat bewildering. You will not know all the answers—nor will anyone expect you to; but if you will develop the technique of arriving at conclusions through careful consideration of the basic facts (a process akin to common sense), you will undoubtedly avoid one of the pitfalls encountered by many a young engineer—"jumping to conclusions." It takes but a short few months and before you know it, you will have found your niche alongside your fellow engineers in a most exciting and challenging profession.

Good Luck in your exams, and may your professional careers be successful.

Television's Manufactured Fraud

THE VAN DOREN TRAGEDY

By
MAX FREEDMAN



MAX FREEDMAN

Editor's Note:—Through the courtesy of Mr. Victor Sifton, Editor and Publisher of the Winnipeg Free Press, the *Slide Rule* is proud to present a fine contribution to editorial journalism by the distinguished Washington correspondent Mr. Max Freedman.

Mr. Freedman's article, written about a specific incident, bears all the marks of a universal, those splendid products of human thought which man has contrived at altogether too widely spaced intervals. Whether a man is designing a new power station, or a super-bridge or a revolutionary type of driving mechanism, his efforts will be almost completely fruitless if he must live in a society wallowing in deceit and phoniness. It makes no difference what field of human activity a person is working in—Mr. Freedman's article must have an appeal which is truly—universal.

There are great issues in the predicament of Mr. Charles Van Doren that go far beyond the personal tragedy of this young man who has now confessed that he became a celebrity by winning a fortune fraudulently on a national quiz program.

These issues invite reflections on some of the deepest values in American public life today. "We live by symbols," said Mr. Justice Holmes. There is a greater tragedy than the agony of conscience which has torn and shamed and ultimately purged the sick career of Mr. Van Doren, and that is the falsehood which is being honored by millions of people. Mr. Van Doren is a tarnished mirror giving back the image of a society lusting after false values and debased symbols.

There are, of course, some good symbols too. Let us look at some of them.

First in honor must come the gallant name of the Van Doren family. It is not enough to add up the

prizes won by Carl and Mark and Irita. All these glories merely touch the margins of their lives. They are symbols of the literary tradition in America. They helped countless young men and women to believe that literature had a high destiny in making our world more tolerant and generous, touched with the grace of wisdom and the benediction of beauty. They lived by the ideals of Jefferson and Lincoln. And now Mark Van Doren, until his recent retirement the most revered professor at Columbia University, sat huddled in a corner of a crowded committee room in Congress and heard his son brand himself as a liar and a fraud. The mind ached helplessly at the grief of it.

Then there is the symbol of young Charles as the respected intellectual. He seemed for a time to restore the nation's faith in its scholars and professors after the ugly deluge of McCarthyism. It became as easy to conjure with his name as with the overpaid greatness of a baseball hero. The nation looked on Van Doren and liked what it saw.

But did the American people have a clear vision? Would they have been interested in him if there had been no big money tag? Would the network have put the program on its national screen if there had been no false drama and contrived excitement in it? And did the people really know what they were seeking?

They certainly were not seeking pure scholarship. A quiz program, even if honest, is a travesty of scholarship and a libel on the creative mind. It has a hunger for facts and a contempt for ideas. It excommunicates the power of judgment from its scale of values. It lives by rules which a memory box could satisfy more easily than Bertrand Russell or T. S. Eliot. It is commonplace when honest and contemptible when deceitful.

Mr. Van Doren tried to explain that a scholar should not be judged by his ability to hold raw facts in his mind. No one listened.

Then the cataract of folly fell on him. He was making less than \$5,000 a year teaching English at Columbia. For answering some silly or trivial questions on a quiz show, he won nearly \$130,000, obtained a \$50,000 a year job with the National Broadcasting Company, and received many other offers, including the leading role in two movies. Was he corrupt or are we to blame?

The personal corruption of Mr. Van Doren is the smallest of all symbols. By any fair standard he is less corrupt than the show's two producers, Mr. Albert Freedman and Mr. Daniel Enright, who deliberately degraded scholarship to the squalid level of a dishonest entertainment. And these two wretches are mere symbols of the tawdry values that curse the television industry. What else is to be excused or tolerated because it is good entertainment?

Let me be plain and candid. I have no right to judge Mr. Van Doren. I hope I would have rejected the \$130,000 bribe but the temptation never came my way. But I do know certain facts that demand attention.

Mr. Van Doren had a heroic ordeal as a witness when he made his confession. That is true. But it also is true that he never decided to confess until Mr. Freedman had betrayed him and implicated him and he faced a possible charge of perjury in

New York. Until now Mr. Van Doren has been silent about the money. He claims that his conscience hurts him. Does it hurt him to the extent of \$130,000? He could make restitution to the people who paid him or to the American Red Cross or to his favourite charity. Can a man of conscience be ashamed of a fraud and still hang on to the booty?

Near the end of the hearing a member of the committee expressed hope that the trustees of Columbia University would take no action against Mr. Van Doren until public opinion had a chance to reveal itself. There was no dissent from any other member. It seemed a fair and indeed generous suggestion. Yet it was in reality the most bizarre symbol of all. For it marked the squalid triumph of the Gallup Poll. Talk about academic courage and independence! Columbia University is to wait upon public opinion and then do not what it thinks is right but what it knows to be safe and popular. That is a formula of perdition.

Two opposite dangers now face us. A wave of sentiment may lift Mr. Van Doren to a new height as a national hero; or he may be cursed as the national scapegoat. There is a third choice, harder but more honorable. The nation might look at its own symbols and values. It might grow ashamed of what it has honored. It is too unreasonable to expect it to honor the book above the pocketbook. But it might come to terms with its conscience by refusing any longer to regard the manufactured frauds of television as the apostles of greatness.

COMMODITY ENTRAINMENT

A New Theory of Economics

By

GEORGE A. RUSSELL



GEORGE A. RUSSELL

Introduction

The human memory is short. Human willingness to accept the lessons of history is even shorter. Thus it must be difficult for our young people to realize that the material goods they know were not always as cheap and shoddy as they are today. For example, I own a chair that was built in 1862. Today, almost 100 years later, it is as good as new and doing admirable service. This chair was not made on a production line or in a jiggled up factory but in the shop of a craftsman.

To go shopping today is to be convinced that automation and efficient production have saddled us with a peculiar economy in which the chief virtue that an article may have is that it shall wear out as quickly as possible. This ability to become useless as quickly as possible has seriously affected other parts of our economy. For example, the colossal scale of credit buying, whereby most people are always in debt and never own anything, would be entirely impossible if goods were made like my chair. Just think of the consequences if goods were made today like my chair. It is hard to conceive of anything more tragic than that a person should actually own something he has bought, let alone use it after it is paid for. Commodity entrainment can solve this problem and make it possible for each person to actually own what he has purchased.

The desire to create, in stone, wood or metal, has been recognized as one of the most powerful of human motivations. Some authorities today believe that man's subjugation to the production line and to various other machines has robbed him of the opportunity to create. This gap in his life is being filled increasingly by alcohol, tranquilizers, aspirin tablets and other soporifics such as spectator sports and television. It is our thesis that man must re-

cover this opportunity to create and Commodity Entrainment can accomplish this.

Wherever one goes today he sees scrap heaps—of cars, tires, tin cans, hotwater tanks, furniture, etc. In view of our present economic situation, which apparently is founded on the principle of waste, it is foolish to let this material accumulate. The new theory, to be described in a moment, can put this material forever out of the reach of man.

Currently, even while employment levels and national income are high, there is considerable concern expressed over the perpetuation of these ideal conditions. As more and more young people flow out of our educational system, the situation is bound to become more critical. It is doubtful whether the contrived strikes we have witnessed for the last two or three years will be able to cope with the situation, allowing surpluses to accumulate and prices to fall. If Commodity Entrainment is introduced, there will be no fear of such a thing happening.

Finally, in the field of international relations, even though the cold war has started to thaw a little bit, there is still considerable tension. There need not be if the tenets of this new theory of economics are introduced and become worldwide in their appeal.

The New Theory

First I will outline the basic components of the theory and then attempt to point out the salutary effects it will have on our present economic and social circumstances. The theory begins on the basis of two very large construction projects which will involve such a vast army of workers that no Canadian who really wants to work would be out of a job. Further, all Unemployment Insurance payments

could be suspended and the fund returned to the respective donors because there would never be unemployment again.

The Halifax Construction Project

From the docks at Halifax, a tunnel carrying a single track railroad line would be built under the ocean, southward a distance of 500 miles to the edge of the Continental Shelf where shallow coastal waters plunge off sharply into the Atlantic abyss. At the south end of the tunnel, a set of electronically controlled gates would allow a train to enter a chamber. Once in the chamber, the lower gate would open, the train brakes automatically released and the train, on the grade provided, would glide smoothly into the bottom of the ocean. There would be no human beings involved, the train having been controlled by an electric brain ever since it left Halifax.

Following disposal of the train, the lower gate would close and seal the chamber and giant pumps would empty it in readiness for the next train. The whole project could, if desired, be co-ordinated with a similar project in the United States though their tunnel would have to accommodate ten trains because they have ten times as many people. The project would cost enough to warm the heart of any bureaucrat, even the most enthusiastic, and would have an immediate, powerful, re-vitalizing effect on the country.

The Vancouver Project

Starting simultaneously with the Halifax Project, the Vancouver Project would have a similar design but, unfortunately, would not have the same costs because there is no shelf on the Pacific. This latter defect, of lower cost, could easily be remedied by extending the tunnel farther out into the Pacific. This would not only provide additional dumping capacity but would remove the possibility of political strife inherent in unequitable distribution of the government's money.

The Plan

Once each week, preferably on Monday, a CPR freight train of 150 empty cars, hauled by as many Diesel units as possible, would start eastward from Vancouver. At each stop, a certain volume of commodities would be piled by the track. Mechanical loaders of the latest design would load the cars as efficiently as possible. Efficiency would be of importance for a successful functioning of the plan and would be checked at every stop by careful time studies.

The volume of commodities to be entrained would be based on the "going" dollar instead of a volume basis. A small package from a jewellery shop would be balanced by a car from a show room. It is felt

that serious planning here, by a commission, could maintain an equitable distribution.

At Halifax, fully loaded and divested of its crew, the train would be placed under the guidance of an automatic pilot, switched into the disposal tunnel and sent to the bottom of the ocean. It should be noted that problems will arise. For example, one trip per month could be devoted to the mechanical loaders so that a surplus would not accumulate, endangering the market as well as the high price.

A similar weekly journey would be made starting from Halifax each Monday. A CNR freight train, composed of exactly the same number of rolling stock units as the other train, would head for Vancouver and the bottom of the Pacific.

Timing

The plan should start at once because it is estimated that it will take about seven years to complete the Halifax and Vancouver Projects. While strict commodity entrainment would have to wait for completion of the undersea tunnels, destruction of goods could begin immediately on an interim basis. The collected goods could be loaded on ships, taken out beyond any reasonable salvage depth and sunk. This would provide the armed services a dual opportunity to assist by getting training in both conventional and recent type weapons and, at the same time, disposing of a lot of extremely expensive goods. It is felt that while such an interim programme would not have nearly the effect of an all-out effort, it would serve to materially increase prices and wages by consuming a large amount of existing goods.

Results of the Programme

To think only of a 500 mile railroad tunnel, under the sea, gives an idea of the size of the programme. New cement plants would have to be built, giant deposits of coarse and fine aggregate would have to be discovered and opened up. In fact, the dimensions of the St. Lawrence Seaway Project would be almost completely dwarfed. Steel mills and copper mines could run full blast with no fear of a surplus endangering the market or prices. Strikes would be a thing of the past.

Feeder highways would have to be built to the railroads because it would be discrimination of the worst sort to favour those who just happened to live by the tracks. The trucking industry would be operating on a 24 hour schedule. Because all the trains would be fully loaded at all times, strife between the truckers and the railroads would disappear. Plants manufacturing rolling stock for the railroads would not only have to work at full capacity but expand in order to cope with the regular, weekly disappearance of two trains. Schools could

be converted to temporary collection centres because only a few young people would have to be taught the basic principles involved in a greatly expedited rate of depletion of our natural resources.

One of the foremost results of such a programme would be that once again man could devote himself to craftsmanship and the production of fine objects. He would work without fear of what would happen to his creation. He would know that in a short time it would be at the bottom of the Atlantic or Pacific. He would become completely engrossed in his work and not require the artificial props he has sought in increasing volume. Once again, at least for a little while, it would be possible to enjoy good workmanship instead of jerry-built junk.

The programme would have international scope too because once the other countries saw the high level of prosperity and employment in North America, they would want the benefits of commodity entrainment for their countries. Countries with coastal disposal areas would follow a scheme similar to that in North America. Inland countries, through treaties or agreements, could arrange to participate with the coastal countries either by paying a portion of the original cost of construction or through agreed-upon disposal tolls. There would be no fear of war because in a comparatively short time, nobody would have anything to fight with. The problem, of course, generates another problem in the matter of international controls. This is not a difficult problem because there is nothing to control. Job opportunities in this field (of international control and inspection) would appear to be almost unlimited.

It is safe to say that in as little as ten years, perhaps, after completion of the Halifax and Vancouver projects, scrap yards and junked car lots would be empty. It would have been proven that the bottoms of the Atlantic and Pacific oceans were consumer's markets far beyond the wildest dreams of the market analysts. The wheat disposal problem would have been unheard of for at least five years. Store shelves would be empty. Now, at some critical point, to be decided by a World Council Of Nations, the programme would be halted because man had returned to an economic situation that

existed approximately 5000 years ago. Though the programme was stopped, the machinery would be maintained in working order in anticipation of another programme to start some years hence. Man could begin all over again but there would be one difficulty. Since knowledge is finite and would be very difficult to dispose of, he would have the advantage of this. By the same token that knowledge is finite, though, it is reasoned that the situation would gradually level itself off and produce a smooth, monotonous cycle.

Who Pays?

No discussion, similar to the above, would be complete without an answer to this question, "Where does the money come from?" The simplicity of the answer is exceeded only by the general efficacy of the whole programme of commodity entrainment—Nobody.

A new monetary system would be involved. When the disposal crew took a car from a showroom floor they would hand the seller a card divided into \$100 coupons. The seller would pay the doctor, dentist, coupons. The seller will pay the doctor, dentist, will pay the car dealer, grocer, butcher, etc. with coupons. Some people will have more coupons than they can use and will take them to a bank. Here the coupons will be duly registered in the proper account ledgers. Once a week the accumulated coupons will be sent to Ottawa where they will be burned. Once a month the banks will burn all their ledgers. Gradually the State will approach the objective so long sought—complete equality. Everyone will have the same amount of everything. But wait! Don't forget! If by chance one has some influence with someone in the upper echelons of the Commodity Entrainment Programme one might be able to get oneself a new car every week. However, since no discipline or responsibility of any sort are inherent in the Theory Of Commodity Entrainment it should not be necessary to stop at a new car every week. If a little time were taken to build up the proper connections it should, without much difficulty, be possible to get a new car every day. Come to think of it—why not?

An article dealing with Russian Education, originally intended for this space, has been omitted for obvious reasons.



SICK LEAVE

A striking lesson in keeping the upper lip stiff is given in an issue of the weekly bulletin of the Federation of Civil Engineering Contractors, which prints the following letter from a bricklayer in Barbados to the firm for whom he worked:

"When I got to the building, I found that the hurricane had knocked some bricks off the top. So I rigged up a beam with a pulley at the top of the building and hoisted up a couple of barrels full of bricks. When I had fixed the building there was a lot of bricks left over. I hoisted the the bottom and then went up and filled the barrel with extra bricks. Then I went to the bottom and eased off the line. Unfortunately, the barrel of bricks was heavier than I was, and before I knew what was happening the barrel started down, jerking me off the ground.

I decided to hang on and half way up I met the barrel coming down and received a severe blow on the shoulder. I then continued to the top, banging my head against the beam and getting my fingers jammed in the pulley. When the barrel hit the ground it burstd its bottom, allowing all the bricks to spill out. I was now heavier than the barrel and so started down again at high speed. Half way down, I met the barrel coming up and received severe injuries to my shin. When I hit the ground I landed on the bricks, getting several painful cuts from the sharp edges.

"At this point I must have lost my presence of mind, because I let go the line. The barrel then came down giving me another heavy blow on the head and putting me in hospital. I respectfully request sick leave . . ."

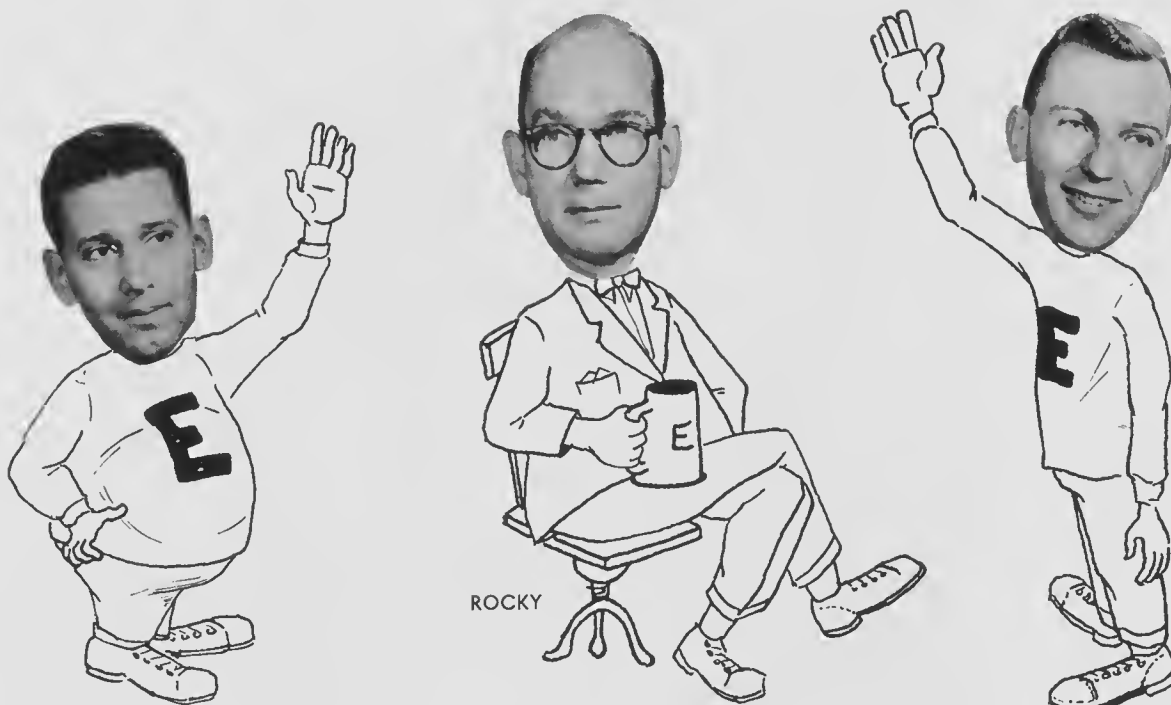
STAFF AND STUDENT SECTION



Miss Bonni Wrighton

POWER PROM QUEEN 1960

THE EDITORS



BILL

HANS

Our sincere thanks are extended to Dean A. E. Macdonald, W. L. Wardrop, and E. J. W. Akins for their messages; to Max Freedman and Professor G. A. Russell for their articles; to Bill Fisher for his excellent photography, and to the various students who contributed to or helped with this publication.

Special thanks are due E. J. W. Akins for his time and efforts as Honorary President, to Professor G. A. Russell for his advice and assistance in editing this issue of the Slide Rule, and to the Winnipeg Free Press for the use of several of their photographs.

To the graduate, some of those who advise often paint for the future a rosy picture of Shangri-la, the doors of which have just swung open to the bearer of the recently acquired diploma.

Others, too pessimistic in their views, indicate a bleak future indeed, underestimating the value of the university degree, and rating the graduate on a par with or below the man whose education has been experience only.

Neither of these views is strictly correct. A great future lies ahead only for the graduate who tackles his vocation with the correct outlook.

In university the graduate has been, or should have been taught; not all the knowledge required for his particular position, but where and how to find this knowledge, and how to use it effectively. The degree certainly does not give the graduate licence to a know-all attitude, but merely obviates the necessity for many of the years of experience.

While there are among all graduates some who will succeed, and some who will not, we, the editors, would take this opportunity of wishing all those of 1960 the greatest success and happiness.

SENIOR STICK'S MESSAGE

By C. E. LAMONT, Senior Stick of Engineering



C. E. LAMONT

First of all I would like to extend my thanks to all in Engineering who have made another year successful. In particular I would like to thank the members of the U.M.E.S. Council whose cooperation and hard work have made this success possible.

Engineers have an Esprit D'Corps which makes them unique on campus. This spirit is strong enough to make engineering relatively unchallenged in any of its endeavors. Perhaps it is time we enlarged the scope of our activities.

Engineers, with their analytical training, should be the best debaters on campus. The effort involved in this endeavor would be worthwhile not just to push engineering, but would be worthwhile in itself. Engineers, more than any other group, will have to spend a lifetime justifying their decisions and debating the probable consequences. The ability to speak effectively will be an asset to be valued for a lifetime. It is not improbable that in time for a great many of us it will become a greater asset than our technical training. It is not enough to have good ideas, you will probably have to convince others that they are good.

Another area where engineers could and should be outstanding is in Politics. We are leaders on campus, into what void do we drop immediately after graduation? Politics are a dirty business? I have never heard anyone say this, who personally knew more than one politician. I am not recommending any political party, because I believe that any and all parties would be better for the addition of engineers. Over fifty percent of government spending is

in engineering projects and when the final decisions are made—where are the engineers? Politics doesn't necessarily mean standing for public office. Any real national party has a broad base of constituency organization to help it, to advise it, and to formulate its policy, and in these organizations there is room for all the engineers Canada can graduate.

To those students who will be in Engineering next year, and particularly to those who will be guiding engineering affairs, I would like to suggest that perhaps even more interest could be generated by creating organizations within the various years. It is interesting to note that the primary structure at Queens University is in Year Organizations, where the year organization gets \$5.00 of a \$6.50 Student's Fee and the Faculty Council gets the rest. With the integrated program presently operating at Manitoba, I would not suggest that we revert to a year system, but perhaps a good deal more interest particularly in First and Second years could be generated if there was a year or even a section organization with a share from the general Students Fee.

The other section of student organization which particularly needs improving is the U.M.S.U. Engineers should be gratified at having one of their number as a candidate for U.M.S.U. President. I hope this will increase Engineering interest and participation in U.M.S.U. activities and committees. Certainly this overall campus organization would be improved by the addition of some engineering spirit.

The best of luck to all in the years ahead.

C. E. LAMONT,
Senior Stick of Engineering.



FRONT ROW: Ken Reinsch, S.E.I.C. Chairman; Ernest Kolaski, 1-5; Mort Walker, 1-2; Murray Duncan, Brown & Gold; Bill Black, Slide Rule Co-editor; Charles Lamont, Senior Stick; John Peters, Secretary; Frank Houston, Treasurer; Garry Reed, Senior U.M.S.U. Rep.; Prof. D. W. Craik, Faculty Advisor.
 SECOND ROW: Bill Hansen, Slide Rule Co-editor; Bob Curtis, 3-M; Trevor Wignal, 2-4; Gord Clark, 1-3; Bob May, 1-1; Bob Chalmers, 2-2; Brian McKinley, 2-3; Buzz Tyson, 2-1; Wendy Woods, Debating Chairman; Rod Bower, 3-C; Bob Solohub, Manitoban Representative; Bill Reid, Junior U.M.S.U. Rep.; Rick Chase, Assistant Treasurer; Chuck Honeyman, 3-E; Jack Marvin, Tour Chairman.
 BACK ROW: Jim Wells, 1-6; Chuck Kellner, Social Chairman; Glenn Urquhart, Freshie Week Chairman; Jim Cran, Publicity Chairman.
 MISSING: Ruston Ford, 1-4; Jim Marshall, Geological Representative.
 INSET: Ron Schriber, Athletic President.

TREASURER'S REPORT

by

Frank Houston, Treasurer

TIGHT MONEY

The Engineering Society certainly had its share of it this year, and the question will be asked—Why did we have to count every penny so carefully? The answer is blunt; poor financial management on the part of the 1958-59 council, resulting in a starting deficit of \$978.00 for the 1959-60 council. This situation, plus the decreased enrollment in Engineering provided a gloomy outlook for extra-curricular activities in the coming year. However, few activities suffered from the close cut budgets, and Engineering had a banner year, substituting an abundance of spirit in place of money.

Last year's deficit was the result of many factors, but the most outstanding contributor was the Slide Rule, which lost approximately \$1,000 in 1958-59. The Slide Rule has never been a paying proposition, but this certainly was an excessive loss. This year, due to the generosity of our patrons and a higher circulation, the Slide Rule will stand on its own feet, while at the same time introducing many new desirable features.

The Engineering Society operates on a portion of the student organization fees of \$16.50, the portion being \$6.50. This money is used in the following manner: Athletics—\$2.04; Social Activities—\$1.85; Graduation—\$1.01; Freshie Week—\$0.50; and Miscellaneous—\$1.01. It is most important that each department stay within these prescribed limits, to produce a balanced operation for the year.

What happens if a council spends all of its funds each year, or even worse, ends the year with a deficit? Consider the worst situation of a large graduating class, and a freshman class that has been decreasing for three years. The most significant outcome would be that the graduates would have to pay for their graduating mugs, in spite of the fact that they have been doing so for the past four years. Such a situation has occurred, and a fool-proof system should be adopted whereby a student will know that in his graduating year he will receive the mug he has paid for. Such a system could be founded on the establishment of a reserve or trust fund which could possibly be extended to pay for the graduates Farewell Party.

The graduating class of 1960-61 will be considerably larger than this year's, and every effort has been made by council to wipe out last year's deficit, and help alleviate the financial difficulties which will most certainly arise next year. At the time of this writing, it would appear that the UMES would either break even, or possibly show a slight surplus on the year's operation. The situation imposed on this council should not be allowed to recur in the future, and it is in the best interests of every member of the UMES to maintain a close vigil on the financial situation, because, after all, it is your money that allows the UMES to function.

INSTRUCTIONAL STAFF



CIVIL STAFF



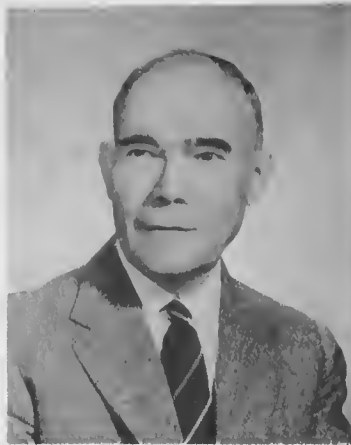
E. S. MAGILL



A. G. LARSON



A. BARACOS



W. F. RIDDELL
Professor and Head of
Civil Engineering



O. MARANTZ



V. L. DUTTON



A. J. CARLSON



E. KUIPER

CIVIL STAFF



W. P. BELEY



D. W. MURRAY



G. L. CLAYTON



T. W. GODFREY



R. LAZAR



E. DOLHUN



C. BERWANGER



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C. A. MORRIS

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J. P. C. McMATH
Professor and Head of
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E. BRIDGES



W. SHEPHERD



R. A. JOHNSON

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H. N. GAWLEY



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W. J. PATTON



W. D. ALEXANDER



R. E. CHANT
Professor and Head of
Mechanical Engineering



D. W. CRAIK



J. FULFORD



H. J. T. YOUNG



H. T. NORTH

ALIENS



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Geology



J. O. TURNER
English



F. ZIELER
Mathematics



W. JONSSON
Mathematics



S. E. I. C. EXECUTIVE

Don Brown, Ken Reinsch, Stan Kustra, Bill Hanuschuk

The Student Section of the Engineering Institute of Canada

By Ken Reinsch — Section Chairman

As our university year comes to an end many of us are laying plans for the days after graduation with high hopes for the fulfilment of the dreams which led us into the study of engineering. It must be recognized that there are many ways to a happy life, many roads to individual satisfaction. We as engineers, should know something of these many ways of life, not by heresay, but by individual experience. Only if we have been exposed to the variety of human interests and efforts can we learn to appreciate the role which our profession or engineering occupies in the world today and the part we may play in this role.

It is to fulfil this need that many engineers have turned to the Engineering Institute of Canada, the functions of which are set forth in the motto, "To facilitate the acquirement and interchange of professional knowledge among its members, to promote their professional interests, to encourage professional research, to develop and maintain high standards in the engineering profession and to enhance the usefulness of the profession to the public."

To the freshman, however, the E.I.C. may appear to be a remote body concerned with matters far above his level and providing no benefit to the student in his undergraduate year. This is not the case, for the institute takes a keen interest in the development of the student into a young engineer. The aim of the institute, with regard to students, is to foster respect for, and interest in, the engineer-

ing profession and to help the student, where possible, in the solution of any problems he may encounter during his undergraduate years. To achieve this end the students are encouraged to participate in the institute's activities by preparing papers for student prizes and by attending branch and section meetings. To many of us, surrounded by our friends and fellow students, it is difficult to see the need of joining a professional organization. However, after graduation the fellow students and university atmosphere no longer exist but, in most cases, participation in the affairs of the local E.I.C. branch makes this transition much easier. To some the initials E.I.C. mean nothing more than something to enter in one's job application form under the heading "Professional Associations." However, being a member of the Engineering Institute of Canada should be more than this. It should be the beginning of an active participation in the dynamic profession which we have chosen as our own.

This year the student section executive is composed of Stan Kustra, vice-chairman; Don Brown, secretary-treasurer; and Bill Hanuschak, membership-chairman, all of whom have combined to do a fine job of expanding our section and presenting what we hope was an interesting program.

In closing, I would like to extend, on behalf of the executive, a word of thanks to Professor J. P. C. McMath, our faculty adviser, and to Mr. T. White, our projectionist, on whom we relied so much this past year for guidance and assistance.

SOCIAL REPORT FOR THE YEAR 1959-1960

by

CHARLES E. KELLNER—SOCIAL CHAIRMAN



The social functions this year have been a relative success. Freshie week, under the direction of Glen Urquhart, was a decided success. The engineers received honourable mention for their efforts in depicting the Russian Engineer's first attempt at building an aeroplane on a float for the parade. The freshmen banquet, held October 7 in the Marlborough Hotel was attended by 70% of the first year class. The banquet was followed by a dance for which some ninety nurses and sixty Home Economics girls were rounded up. Guest speaker at the banquet was the UMES honorary president for 1959-1960, Col. E. J. W. Akins.

The fall term saw many parties arranged for the "inmates of the factory". Two notable blasts were held by the rowdy third year Civil class and the equally rambunctious fourth year Mechanical class. These many parties were the main reason for the collapse of the annual stag. It was decided that the size of the stag was getting out of proportion and that class parties and individual stags were the answer.

The Power Prom Pep Rally saw another first for the Engineers on campus. Mr. Bob Schwartz, a talented ventriloquist donated his services and he and his two offspring introduced the queens. Talent for the rally also came in the form of the first year class as musicians. The highlight of the day came when

the Engineers tried their hand at ballet. The Power Prom was held Friday, February 5, at the Royal Alexandra in traditional quarters. Sigma Phi Delta fraternity again supplied outstanding decorations. The orchestral accompaniment was again supplied by Harold Green. The pictures of the queen and the runners up are shown on various pages throughout the Slide Rule.

Another noteworthy social event was the two day trip which the third year Mechanical class took to Dryden Paper Company. Many noteworthy incidents were recorded on this trip, many trophies were acquired, and many individuals earned a name for themselves. In short, the class made themselves known to both one another and to outsiders.

As we go to press we find that there are yet two social events which have not taken place. Both are important to the university year. The first is the annual Awards Banquet. The second is the annual Grad's Farewell. The latter this year will be held at the Fort Garry Hotel on Friday, March 4.

In summing up I feel the Engineers have had a fine year as far as extra-curricular activities are concerned. As usual many pranks were pulled, and the Engineers made themselves unpopular with the other faculties, however this adds to the spirit on campus, and helps break the monotony of the big grind.



SPORTS REPORT

by Ron Schriber

ENGINEERS IN SPORTS

With a little less than two months of intramural competition left, the faculty of Engineering is well in front in its bid for the Lieutenant W. G. Kotpaw high point trophy for the fourth successive season. If the "Beerman" can keep up the pace set in the fall term the trophy will again rest in the trophy case of the Engineering Library. At the time of writing, Engineering is in the lead by approximately 800 points, with the second place closely contended by Agriculture, Science, and Commerce.

This year has been successful in another way, as participation in sports has increased slightly over last year. There is still a considerable lack of participation from the first year fellows, but this is normal.

SIX-MAN FOOTBALL:

The Engineers, under the capable guidance of Gary Swan, reached the semi-finals this year but were beaten by their arch rivals—Medicine. This game proved to be very exciting but with Keith Sims missing from the corner linebacker position it was a tough job to stop the big Med team. Star of the series for the Engineers was Bob Lynch from first year who grabbed any football that came his way. The team was light in comparison with other teams, but overcame this with drive and desire. Other standouts on the team were Terry Partridge (Q.B.), Chuck Honeyman, Gary Reed, Don Gushe, Paul Cantin, Norm Blaine, Mick Mitchell, Mac Holroyde, Bob Borbridge, Harry Hill, and Scott Reid.



SIX MAN FOOTBALL TEAM:

Back: Harry Hill, Dan Gushe, Paul Cantin.
Middle: Bob Lynch, Bob Borbridge, Norm Blaine, Mick Mitchell, Keith Sims.
Front: Chuck Honeyman, Gary Reed, Mac Holroyde, Ron Schriber, Athletic President.

TRACK AND FIELD:

The olympic-style track meet was held on a beautiful day this year and with a handful of men (seven to be exact) the Engineers tied the strong United College team for first place. Star of the meet was George Young with two firsts and a second. An Engineering find, Ron Greenlay, from first year, won the two strong man events (shot put and discus). The relay team of George Young, Max Boyachuk, Jeff Stevens, and M. Davidson came second in the 440 yard pursuit relay. Ron Schriber tossed the shot put for a third in this event.

FLAG FOOTBALL:

The "Gentlemen's Rugby" game had tremendous support from the Engineers this year. A special congratulations to Keith MacLeod, the convener, who rounded up eleven teams for this event. Due to the weather the schedule could not be completed, though several teams were showing very strongly in their leagues. In the playoffs the Engineering Dream Team, led by Ricky Nelson were soundly trounced in a hard fought scrappy battle by a rough St. Pauls team. Other members of the dream team were Ken Reinsch, Murray Duncan, Chuckles Backman, Dave Lee, Bob Bevis, Ray Berry, Ron Schriber, George Young, Bob Begg, Claude Muret, Dave Farlinger, and Don Biglow.



FLAG FOOTBALL REPRESENTATIVES:

Back: Keith MacLeod, Bob Bevis, Ray Berry.
Middle: Dave Farlinger, Claude Muret, George Young, Bob Begg, Don Biglow.
Front: Ron Schriber, Ken Reinsch, Murray Duncan, Chuck Backman.

SOCCER:

This season saw the Junior A team of fourth year men successfully defend its trophy for the Second Division League. The Senior team lost every game, but would have been a strong contender for the First Division League if the average participation

per game had been over seven. The Junior team was comprised of Roy Billington, Bob Taylor, Cedric Pedrick, and Ron Schriber from IVE; John Hiley and Doug Hamilton from IVC; and Rickie Nelson, Vic (doo-ah) Duy, Claude Muret, Murray Duncan, Berger Zeidman, Ken Lailey, Des Dalrymple, and Don Biglow from IVM. The convener, Bob Petri, played outstanding ball for the senior team, but unfortunately, could not cover the entire field at the same time.



JUNIOR SOCCER CHAMPS:

Standing: Ron Schriber, Claude Muret, Des Dalrymple, Murray Duncan, Roy Billington, Doug Hamilton, Jerry Kruk, Laurie Pedrick, Bob Taylor, Don Biglow.

Kneeling: Bob Zeidman, Ken Lailey, John Hiley, Glen Urquhart (manager).

ROAD RACE AND CROSS COUNTRY RACE:

Both of these events were held in ideal conditions, i.e. wet and muddy, but Engineering managed to win the team championship for the road race, and was edged out by Aggies in the cross country. Participation in the road race was at an all time high with 97 Engineers entering this race, as well as Wendy Woods. Congratulations to Max Boyachuk and George Young for the fine job they did in promoting these races.

TENNIS AND TABLE TENNIS:

In tennis, Tibor Elekfy, second year Engineer, won the individual championship, although the participation in this event was rather poor. In table tennis there were a few participants, but nobody won out.

ARCHERY:

Participation in this sport was at an all time low for Engineering. The two Engineers who did enter the competition, Denis Shaith and Jack Richtik, came away with a second and a third respectively in the competition.

VOLLEYBALL:

Engineering has put up 24 teams to do battle against other faculties and since the start of the schedule, only 2 teams have defaulted. Convener Bob Sparrow is doing a fine job of supervising and it looks as if there will be quite a few engineering

teams in the playoffs. The first team this year is comprised of an entirely new squad and at last report is just beginning to work together. Engineering 2 and 3 will also bear watching in the playoffs.

HANDBALL:

With the addition of the new back wall in the handball court the doubles match will be going strong in a few weeks. Engineering will probably field men like Stan Johnson, Bruce McDonald, Murray Duncan (convener), Gary Reed and J. C. Marvin. In the singles the Engineers reached the fours and then lost to a strong Science team. The Engineers seem to be a good bet to take the doubles competition.

SWIMMING:

The swimming meet held at Sherbrook Pools this year was a success as far as participation was concerned, and was the first time in a few years that our team placed in this event. Bob Barton, the big speedster from Engineering, won the backstroke handily and helped place Engineering second in the relay race. If Mick Mitchell had turned up an hour sooner we would surely have gotten a second place win. Other members of the swimming team were George Young, Jack Marvin, Harry Martel, Ron Schriber, and Ricky Nelson. Where was Wendy Woods?

CURLING:

Curling this year has seen the Porte Markle team of Bob Johannson, Don Lamb, Harry Mitchell and Don Campbell again pose as the bridesmaid as they lost to the foursome from medicine in the finals. Last year's inter faculty curling champs from Engineering have not been showing too well but Ken Reinsch, the curling convener, tells me the Engineers curl better at the completion of the schedule when the actual competition does take place. Bonspiel entries are all in and Engineering will probably do well in this event. Engineers have been fortunate to obtain the Pembina Curling Club this year for faculty curling and as a result have left the "graveyard shift" of previous years behind.



PORTE MARKLE CURLING TEAM: Don Lamb, Harry Martel, Don Campbell, Bob Johannson (skip).



INTERFACULTY CURLING TEAM: Back: Cec Dawley, Norm Blaine.
Middle: Don Campbell, Gord Lamb, Ron Buchanan, Harry Martel.
Front: Garry Reed, Ken Wrench, Bob Johannson.

HOCKEY:

After a very successful season last year it seems that the Engineering teams are having trouble settling down. There are five teams entered in the hockey schedule and to this date only one of the junior teams is completely dominating their league. The bid for hockey glory at Minnedosa this year saw a choice Engineering team go down to defeat, but convener Dave Lee indicated that the Minnedosans were rather lucky. On the home front, after a few games the Engineers will probably settle down and romp to undisputed victory. The big names are Ken Lailey, John (slapshot) Hiley, and Bob Hamilton for the senior teams, and Begg and Dave Farlinger for the junior teams.

BASKETBALL:

Of the five teams entered in this sport only one junior team is undefeated. The slurrers team is doing exceptionally well as they have won two games — by default. The third year Civil team is doing quite well and is supported by men such as Brian Grover and Steve Kowalik. Other big names are Ricky Nelson, Ray Berry, Gord Tarapasky, and Bruce McDonald from the senior team who have fought valiantly during the initial part of the basketball campaign.

RIFLE:

The rifle teams, under the able leadership of Bill Paetkau, have again enjoyed outstanding success. The riflemen have felled all foes and aim to sweep all competitions this year. The sharpshooter's team of Bill Paetkau, Wayne Mitchell, Garth Roberts and Cam Fergusson have fired their way to the intramural championship and in so doing have set an all time high record of 800-74X. The COTC and individual championship have still to be fired but with the Engineering riflemen, these competitions will probably be just a formality.

SKIING:

The Engineering team have just won the team championship at the time of writing. The competition took place at La Riviere and the participation from Engineering was at an all time high. Engineer's Grant Smith, Bruce Watson, and Doug Scott were the leaders in the meet. Other members of the team were Greg MacDonald, Bob Curtis, Bob Petri, Bill Schmidt, Ralph Pentland and Frank Pickersgill. Barring broken bones, the Engineers showed fine spirit in winning the intramural championship.

GOLF:

The golf competition was called off this year because of the weather, but Engineering still managed to place Gord Crabtree on the inter-collegiate golf team. The Engineers would probably have taken the team championship, with fellows like Ken Lailey and Bruce McDonald—stalwarts from last year's winning team.



SPORTS CONVENERS: Bill Paetkau, Ken Reinsch, Bob Bevis, George Young, Keith MacLeod, Murray Duncan, Bob Begg, Jack Marvin, Bruce McDonald.



SPORTS CONVENERS: Bob Petri, Bob Sparrow, Doug Scott, Rick Chase, Max Boyachuk, Bob Johannson. Missing: Gary Swan, Ken Lailey, Dave Lee.



Undergrads



FIRST YEAR ENGINEERING



Miss Mary Milne

POWER PROM QUEEN CANDIDATE



SECTION 1

Back Row: H. Symonds, G. Cederwall, W. Warren, J. Stover, G. Mazer, R. Greenlay, L. Willison, B. May, B. McCallum, B. Wildeman, N. Emslie, W. Kauk.

Middle Row: A. Rezansott, A. Strang, D. Lawrence, R. Russell, H. Wiebe, W. Ellison, L. Hiley, B. Anderson, L. Tymkiw, C. Smith, B. Watson, A. Fever.

Front Row: G. Wilby, J. McBride, M. Carvey, J. Fraser, R. Markham, P. Siepp, D. Rentz, A. Side, P. Palmer, R. Palmer, J. Hamilton.

ENGINEERING I

SECTION 2

Back Row: D. Juzkiw, D. Shimozawa, B. Milne, K. Gorman, G. McGeary, W. Rosland, W. Bilozov, G. Chapel, M. Walker, R. Baillie, G. Hilton, E. McComb, D. Moore.

Middle Row: B. Fisher, J. Wren, R. Goeres, D. Thomas, W. Menzies, K. Flock, D. Schneider, I. Johannson, G. Bridgeman, B. Corkal, M. Davidson.

Front Row: A. Anderson, B. Hyslop, P. Ali, N. Skjott, A. Prochuk, B. Frederickson, K. Porter, K. Patino, S. Mohammed, J. Tinlin. Missing: N. Coleman, S. Wiley, D. Livingstone.





SECTION 3

Back Row: L. Heska, G. Lawrence, C. George, T. Sutton, J. Moon, E. Willms, L. Duval, R. Hinthier.
 Middle Row: R. Williams, C. Smith, J. Keelty, E. Domaratzki, M. Thomas, J. Roche, W. Aomdal, N. Fenton, B. Howden.
 Front Row: S. Roik, E. Hyworan, G. Michael, D. Proch, G. Clark, R. Pohl, A. Chastko, A. McKinnon, C. Muir.

ENGINEERING I

SECTION 4

Back Row: J. Websdale, D. Vandenberghe, B. Thompson, M. Jacobes, G. Daniels, K. Copeland, S. Seniuk, A. Goyer, K. Gowrilik, A. Bolton.
 Middle Row: A. Cleerwater, R. Keltie, G. Skinner, S. Freitag, J. Roberts, M. Drennan, J. Massery, W. Friesin, J. Richl, L. Baydak, B. Barton.
 Front Row: C. Avery, H. Wackman, F. Bliwernitz, S. Robertson, P. Jacobi, R. Ford, D. Robertson, A. Aylward, S. Thomson, L. Cox, S. Kopeck, E. Dutchak.





SECTION 5

Back Row: G. Klassen, D. Underwood, W. Jonasson, E. Morris, H. Wisinor, O. Pedde, B. Lynch, F. Chung, N. Peitsch, L. Jijian, H. Wall, D. Pashniak.

Middle Row: H. DeLeeuw, A. Holensky, D. Snaith, A. Szabolcs, M. Warachka, D. Gussin, M. Kubay, J. Anderson, K. Ferguson, E. Machej, A. Snyder.

Front Row: G. Goral, E. Kolaski, A. Gilchrist, P. Simeon, S. Mohammed, D. Hook, W. Mitchell, A. Vermeulin, W. Collins, B. Koski.

ENGINEERING I

SECTION 6

Back Row: J. Clark, A. Schneider, D. McKenzie, H. Daubaras, E. Zaleski, W. Fieguth, G. Bradshaw, J. Wells, H. Uhryn, R. McGillivray, D. Swan, H. Chatfield.

Middle Row: G. Cooke, A. Cop, W. Lang, K. Chow, K. Holland, D. Hubble, G. Jorgenson, H. Carruthers, A. Keating, B. Hill, Y. Mak.

Front Row: D. Sader, M. Melnyk, D. McLaughlin, S. Reid, I. Thomas, J. Graffin, B. Fleishman, W. McLean, M. Delbaere, J. Chick, K. Li, B. Stephens.



SECOND YEAR ENGINEERING



Miss Dorothy Kropp

POWER PROM QUEEN CANDIDATE



SECTION 1

Back Row: G. DeGuyper, D. Mikalchuk, E. Rokosh, J. Jorgenson, C. Howard, R. Drysdale, A. Pick, K. Kaminski, G. Anderson, B. Muir, A. Macatavish, B. Brook.

Middle Row: H. Feingold, B. Aris, J. Ross, P. Winslow, J. Holmes, L. Prucyk, R. Rozieue, W. Rooke, J. Smith, B. Herdy, L. Crosthwaite, G. Anderson, J. Francis, D. White.

Front Row: B. Luttman, D. Ramsay, R. Sawchuk, N. Blaine, B. Borbridge, K. Brickman, D. Brown, B. Tyson, T. Keenie, B. McKibbin, D. Papageorge.

ENGINEERING II

SECTION 2

Back Row: A. Zerbin, P. Stetchison, H. Folson, B. Smith, K. Peebles, B. McLean, V. Boese, V. Rampton, B. Niven, E. Fromyha.

Middle Row: T. Weeks, J. Witherspoon, A. Whitmore, D. McMillan, J. Kopec, K. Ritchie, K. Halsall, B. Newbury.

Front Row: J. Lac, E. Schroeder, L. Matsukubo, G. Bray, R. Advice, D. Andrushko, B. Chalmers, L. Foster, B. Garbutt, D. Deagle.





SECTION 3

Back Row: H. Mielke, J. Lewak, J. Stoneman, C. Krahn, B. Curtis, G. Martinson, D. Mosbeck, G. Mowat, B. Pawluk, A. Richmond, D. Murphy, L. Chandler, R. Adams, B. Leathwood, R. Jell.
 Middle Row: R. Daher, W. Randell, B. McPherson, B. Kennedy, B. Gordon, W. Harriott, W. Badger, D. Conway, V. Steciuk, F. Clancy, J. Stefanson, N. Lyons, J. Kelly, E. Thiessen.
 Front Row: W. Kochuk, B. Dyell, C. Fergusson, E. Szun, P. Rebizant, B. Baturin, B. McKinley, D. Kroeker, R. Buss, A. Miki, J. Forrest, J. Kennedy, K. Walker.

ENGINEERING II

SECTION 4

Back Row: G. Saunders, D. Bishop, D. Howell, C. Cho, A. McLellan, W. Antonyshyn, T. Wignall, K. Cork, D. Delgatty, J. Jacob, D. Johnson, J. Bogdonov.
 3rd Row: R. Cartwright, B. Johannson, J. Archer, F. Ramlal, M. Kostelnyk, W. Sorby, R. Hovey, J. Harrington, C. Griffith, B. Purdy, J. Danielson.
 2nd Row: G. Wagerer, A. Whitcomb, G. Koreen, B. Chaboyer, T. O'Neill, L. Bruneau, B. Dykes, J. Kuzniakowski, W. McLellan, P. Wake, B. Wright, D. Head, P. Landry.
 Front Row: B. Siemens, J. Richtik, W. Tibelius, P. Kowalyk, D. Johnson, W. Karbonik.





ENGINEERING III CIVIL

Back Row: A. Wittenberg, R. Tide, K. Adam, J. Moskalyk, P. Feschuk, B. Petri, K. Nixon, B. Macdonell, R. Haag, B. Grover, A. Boychuk, E. Pentland, R. Triffo, I. Cooper, B. Hepworth, H. Heck.
 4th Row: K. Snidal, D. Ennis, R. Buchanan, G. Macdonald, E. Lipinski, G. Locker, D. Farlinger, H. Derksen, R. Pentland, G. Crabtree, R. Chase, B. Reid, B. Solohub, S. Kawalec, A. Lansdown, D. Sexton, G. Rempel, F. Brown, Lance Cowsznofski.
 3rd Row: G. Russell, V. Galey, H. Rawn, F. Best, A. Kuluk, G. James, A. Kohusha, J. Rzonca, V. Lysack, D. Wilson, R. McIntyre, G. Tencha.
 2nd Row: C. Jack, S. Kustra, W. Bailey, J. Orchard, B. Mann, J. Cran, E. Malakoff, D. Chivers, G. Reed, W. Miller, K. Dederick, D. Charleson.
 Front Row: R. Bower, A. Arenson. Missing: K. Byram, H. Martel, M. Romas, D. Vandussen.



III YEAR ELECTRICAL

Back Row: A. Penner, R. Schmidt, F. Wall, S. MacPherson, P. Warkentin, C. Thio, R. Melville, W. Cooke, D. Gushe, M. Bulawka, E. Jopling.
 Middle Row: A. E. Newman, C. Kunze, L. Citulec, B. Tarry, L. Dunn, G. Davidson, S. Helman, G. Thomas, B. Eckart, L. Cox, K. Jones, A. Bereza, D. Buchanan.
 Front Row: J. Loo, G. Thorsteinson, M. Cooden, E. Pavlin, C. Honeyman, S. Johnson, H. Barnett, M. Boyachek, J. Rock, T. Macksimovicz.
 Missing: A. Belinsky, J. Malcom.



III YEAR MECHANICAL

Back Row: R. Glasman, C. Gusta, J. Herman, J. Buchanan, P. Cantin, H. Hallowell, D. Reitlo, D. Haller, B. Sparrow, B. Norrie, A. Mazur, F. Houston.
 Middle Row: T. Fox, C. Lydall, R. Finlay, H. Hill, D. Hosfield, L. Nichol, R. Kaethler, H. Underhill, L. Romanchuk, W. Halchuk, D. Banks, W. Cardigan, K. Biccum.
 Front Row: M. Fisher, S. Attersley, T. Starr, K. Truss, S. Mitchell, C. Kellner, P. Oleksiuk, T. Partridge, H. Holroyde, D. Cross, R. Curtis.

GEOLOGICAL ENGINEERING



Miss Marlyn Jeffkins

POWER PROM QUEEN CANDIDATE

II YEAR GEOLOGICAL



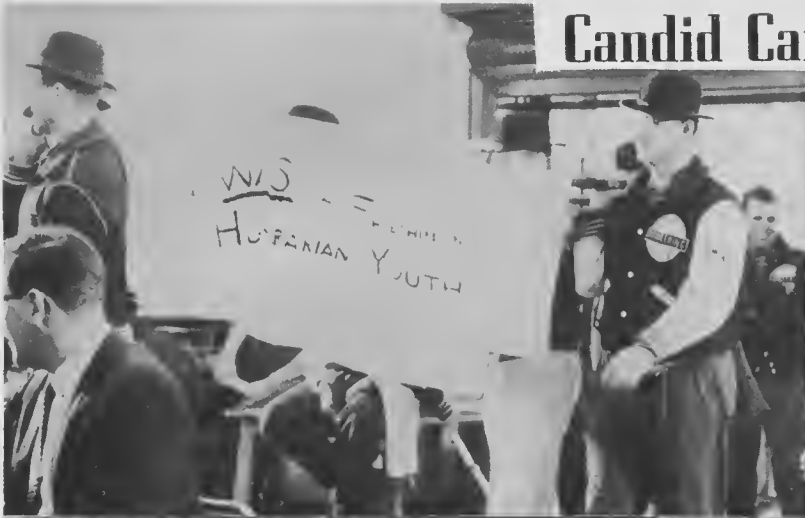
Verne Rampton, Ken Ouelette, Jim Marshall

III YEAR GEOLOGICAL



Gary Pearse, Ted Robins, Francis Render

Candid Camera





GERMAN-ENGLISH GLOSSARY OF MISSILE TERMS

Guided Missile	Des skientifiker geschutenwerks firenkracker
Rocket engine	Firenschpitter mit schmoken unt schnorten
Liquid Rocket	Das shkwirten juckenkind firenschpitter
Solid Rocket	Das schtick kindlikercigaretten firenschpitter
Guidance System	Das schteerenwerks
Celestial Guidance	Das schruballische schtargazen peepenglasser mit komputenratraccen schteerenwerke
Pre-set Guidance	Das senden offen mit ein pattenbacker unt finger gekrossen schteerenwerke
Computing System	Das schmardtalkwerke mit schruballische elektronik rattaccen unt alles gekinden tubenkrap
Control System	Das pullen-unt-schoven werke
Warhead	Das lauderboomer
Nuclear Warhead	Das eargerschplitten laudenboomer
Hydrogen Device	Das eargerschplitten laudenboomer mit ein grosse hollengraund unt alles kaput
Sectionalization	Machtenze mit der pullendoudt unt schoventogedder mit ein grosse schpeede
Reliability	Machtenze sodat alles mekanische parten nicht ben schtoppen unt gepfleinapardten
Air to Surface	Fromische uppenschteres geschuten daunondekker bullzei

Departments:

Management	Das ulzurenbalden grup
Project Engineer	Das schwettenoudter
Drafting	Das raundscholders unt reddischeiz grup
Electronics	Das tubenkrap grup
Wind Tunnel	Das huffenpuffen grup
Production	Das schoppen bunche
Contract Administration	Das tabelgapaunden grup
Preliminary Design	Das uppen-das-klauden grup
Support Equipment	Das garterbelten grup



MECHANICAL ENGINEERING



Miss Bonni Wrighton

POWER PROM QUEEN CANDIDATE

Mechanical Graduates

BRUCE I. ANTONEN

Bruce attended high school at the Port Arthur Collegiate, and took first year Engineering at the Lakehead Technical Institute. His summers were spent at the Provincial Paper Mill in Port Arthur. Future ambitions include returning to Port Arthur.

CHARLES G. BACKMAN

Known informally as "Chickles." A personable lad coming to the U. of M. from an institution—Lundar Collegiate, that is. Known in air conditioning circles as a sports fan, Chuck keeps the Warriors and Bombers in sweaters. He is also active in intramural football and volleyball. Ambition—To be a 1960 graduate.

ROBERT N. BEGG

Hails from DMCI, and at present is president of Phi Kappa Pi frat. He is one of the brighter members of the class, and is well known for his cheery disposition. Besides being a good athlete, he is an avid hunter, and spends many weekends at Balmoral hunting "Fox." "How's that for a hairy."

HOLLAND J. BERRY

"SAE" Berry is Virden's gift to Engineering. He is a keen student, and a member of Phi Kappa Pi frat. Holly is one of the many married members of the class, and can be seen streaking across the campus any night, on his way to pick up the wife. Future with Sun Oil Company.

RAYMOND BERRY

Good natured Ray came to Engineering via DMCI. Recently married, he has a pilot's license, will fly, but costs keep him down. Active in intramural sports, his ambition is to make a mint, while the future is inevitable.

ROBERT J. BEVIS

Happily married refugee from Science. "The Beaver" has held the positions of class president, ass't. treasurer and treasurer on the UMES council. Recipient of an award for a technical paper, he is currently the Chief Engineer for the SPD frat. Plays mean game of tennis and flag football.

DONALD K. BIGLOW

The Don Juan of 4M, and a decorated veteran of the "Normandy Campaign." Don's standing in class is in no way any criterion of his ability. An active athlete, his future is completely indeterminate.

FREDRICK WILLIAM BLACK

Co-editor of the Slide Rule, Bill interrupted his engineering course after second year, to work for three years. Chief joy in life comes from riding Lamont. A keen student, but the owner of the most scrambled set of notes in the class. Future lies in post-grad work and teaching?—tally-ho.

DONALD A. CAMPBELL

Don has been on the extended plan, but figures to graduate this year. Has gained extensive knowledge in the fundamentals of bridge during his stay. Amiable and well liked, Don is sure to succeed in any of his endeavors.

DESMOND DALRYMPLE

Des has been an excellent student throughout his four years at Manitoba. At present he calls London home, but grew up in Winnipeg. Des can be depended on to take part in any boisterous activities organized by Urquhart. Future holds post grad work, and escape from the bugging of Black and Lamont.

Mechanical Graduates

J. ERNEST DOUCETTE

When not playing cards, Ernie can sometimes be found in the classroom. This does not stop him from maintaining a fair class standing, however. His future is undecided, but possibly lies in the pulp and paper industry. Favorite saying—"Don't be sucked in."

ROBERT M. DUNCAN

Murray has been active in virtually every Engineering activity in the past four years, but has still found time to make a good showing in class. Easy going and well liked, a bright future undoubtedly lies ahead of Murray, but to date he knows not with whom.

VICTOR DUJY

Vic, among other things, claims as his chief rights to fame his "after dinner" speeches, phenomenal driving ability, and regular attendance at the Java House. He is the pride and joy of the G. Urquhart productions. Vic is active in University sports, and is a daily visitor at the Unemployment office.

WILLIAM A. HANSEN

"The Old Story Teller" is co-editor of the Slide Rule, and another whose attendance at U has been sprinkled with holidays. Bill spends considerable time cartooning Watson, and admiring the notes of Black and the shiny head of the senior stick. Past—communications. With his bag full of jokes and his amiable personality we feel that Hans should be successful in his future of sales.

ROBERT B. JOHNSON

The conversationalist of the "Lakehead Duet." Bob attended high school in Fort William. One of the more conservative members of the class, he has done well in the course, and should continue doing so in his future endeavors.

JERRY KRUK

The "old man" of the class, Jerry is a star wing for the St. Boniface Canadiens. A keen competitor in both sports and curricular activities, his most probable future is in professional hockey. Failing this he would like to be chief engineer of the icemaking plant at the arena, or any other position which would allow him to return home early.

KENNETH G. LAILEY

The laughing greenkeeper is an avid sportsman, excelling in golf, curling, and beanball. Ken has endeared himself to the class by deriving great pleasure from riding everyone, and places himself at the head of a long list of "notable rubes." In spite of himself he will graduate this year, and we would wish him the best of luck in his position of Pfc with the U.S. Army.

CHARLES E. LAMONT, Senior Stick

The "Right Honourable" C. E. Lamont is the Fidel Castro of Engineering. A staunch Conservative who is at present masquerading as a Liberal for the sake of argument. Charlie began his higher education in Arts. After an extended vacation of a decade or so he returned to Engineering, bringing with him the drive required to reinstate engineering as the only live faculty on campus.

DAVID J. LEE

"Diesel" was active in sports, particularly flag football and hockey. In hockey he was with the Bisons for three years, and holds as his claim to fame his survival of four years of residence food. Dave has been Chairman of the EIC Membership Committee, and hockey convener for Engineering. Future—possibly with B.A.

KEITH C. MACLEOD

A graduate of St. James Collegiate, Keith has been a keen student. Commonly known as "Marbles," he operates an inconsistent car pool to and from the sticks of St. James. He is active in Phi Kappa Pi frat, singing and flag football. Favorite expression—"Hey Beaver, off for a malt." Future—Hydro Board.



Mechanical Graduates

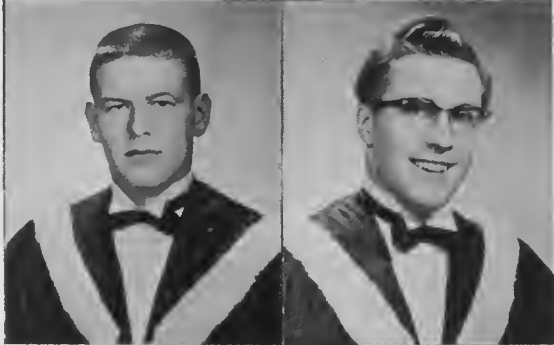


ALBERT E. MCBURNEY

A refugee from Brandon, this kid's initial abode was the men's residence, but he has chickened out. He prefers to remain a mystery man concerning his night life, but judging from his class standing his books must have well worn pages. Being a congenial fellow, all the boys believe in "C"ing Al regularly. His main ambition is to loan money to Bing Crosby.

A. BRUCE McDONALD

A reformed North End Commando, the buzzard, who now calls Neepawa home, has really lived since starting U. This has included parties, sports, SPD frat, and the General Hospital. Bruce seems doomed for a future of eluding prospective employers by joining the RCAF.



CLAUDE L. MURET

The Belgian Bomber, if not planning a party is recovering from one. Definitely the No. 1 charmer of 4M. A member of the KSK frat, Claude has participated in most Engineering activities. His future lies in the oil business in Montreal. "You'll get along fine there, Frenchy."

JOHN E. NEILSON

Known best by the nickname "Hovi," John hails from St. Vital. He is a man of his word, especially when he goes for one beer, and certainly not an active member of the club. His hobby is to correct the Profs while reading chess books in class. A fine lad and good head, we feel John will go far.



BARRIE A. NELSON

A product of the Bandywallop Humane Society, "Rick" came to Engineering via DMCI. His summers have been spent flying with the RCAF, and he anticipates an exciting future in this service. He has participated in soccer and social activities during his stay, and will concentrate on social studies after graduation.

H. M. PHILIPPI



FRANCIS G. METCALFE

"The Fabulous Faker" came to Engineering via Gordon Bell, U of Arkansas, and U.C. Member of the Zete frat, and past athletic president of UMES. Frank will probably head for the U.S. after graduation.

EDWARD A. PRATT

Ed was born, raised, and received his preliminary education in Birtle. He returned this year to find out about I.C. Engines, and has already launched his career in consulting engineering.



JACK A. REMINGTON

One of the married men, who usually behaves himself, living in fear of the day of reckoning. Jack will have no trouble choosing a career, as he is a career officer in the RCME. "I don't agree with that."

LEONARD D. SANDERSON

A devout member of the "I don't agree" club, Don can usually be found working on his car? No positive future, possibly railroading.

Mechanical Graduates

WALTER SCHLICHTING

A senior member of the class, Walter is one of the more conscientious types, and derives his satisfaction from studies rather than shenanigans. Hobby—Asking questions. Future—Undecided as yet.

ROBERT SEEPISH

Need you say anything? Good looks, brains, and personality are this lad's main assets. Without a doubt one of the sharpest dressers on campus. "Seep" toiled for the senior Bisons, and is now starring for St. Andrew's basketball team. Extra curricular activities include an intense creative ability. However, the professors have informed us that, according to Bob's last examination he is unlikely to ever create anything more than a nuisance.

NORMAN SHAPIRO

Past master of the Shapiro Globberman Trotters, Norm is without doubt the best dressed member of the class. With his cashmere coat and serge suit he has become a legend in his own time. Favorite expression—"Don't give me aggravation, Lailey." Norm's future probably lies in the sales field.

KEITH W. SIMS

A typical example of the bright young men in Engineering, especially at 8:30 A.M. Keith is a tough competitor in all fields, and with his drive he will leave the U of M with two degrees, B.Sc. (Eng) and B.Sc. (Grass Cutting). A member of DKE frat, Keith comes to us from DMCI, and will leave us for Hamilton or Calgary, wherever the grass is greener.

GERRY STEPHANSON

"The rifleman" hails from DMCI and decided in his last year of Engineering to become an athlete—flag football, hand ball, badminton, volleyball, and rifle shooting. An excellent man, he claims to have received training with RCAF as an officer. Quote—"Officer—that's me." Ambition: To stay in the Air Force for 25 years, and be a deterrent.

IRWIN R. TIEDE

Irv came to U of M from River Hills, Man. and has convinced everyone that the folks back home have one leg shorter than the other to facilitate walking on an even keel in the hilly terrain. Active in sports, he brought a measure of fame to the faculty by outrunning some of the best sprinters on campus in the cross country race. Future undecided as yet.

DAVE WATSON

Dave is the only man who will graduate without any notes for proof of attendance at university. With a quiet outlook on life he prides himself on winning races with his outboard motor, shooting with his water-cooled "Vickers," and being a legendary member of SPD frat. "Bat" looks forward with wild anticipation to the day when he will become commissioner of the "Harbour Patrol," and should find a successful and rewarding hobby in the engineering field.

LAWRENCE R. WESELAKE

Larry is one of the top members of the class, although a future in fluid mechanics is unlikely. Quiet and amiable, he has carried two extra subjects in his final year; Vector Algebra and Schlichting. His immediate future lies in post grad work.

GEORGE A. YOUNG

George hails from DMCI. In true Engineering fashion he took part in every sport on campus, and he stars in track and field. George claims the YMCA is his foundation of "pure" youth. A true SPD with a weakness for wine, George feels his future holds President FAFC, followed by "quiet" evenings with Sharon.

ROBERT D. ZEIDMAN

Attentive, pleasant, and athletic, Bob has had invaluable experience in the design field, and is a possible candidate for the position of assistant to Werner Von Braun. A non smoker and non drinker he will certainly succeed in any endeavor he attempts.





Mechanical Graduates

GRAHAM ZELMER

One of the north end Commandos, and an Arts sympathizer. He has participated in intramural basketball since he arrived at the U. "Zam" is not too popular with the north end reds after demonstrating at several first term rallies. He has a funny habit of taking out rich girls. Future — Anything theoretical.



GEORGE DUNN



DICK HERBERTSON

During the past two years, we of Mechanical Engineering have been sorry to learn of the untimely deaths of two of our well liked recent graduates. The loss of George Dunn and Dick Herbertson will be felt by all those who have known them.

CIVIL ENGINEERING



Miss Pat McKenzie

POWER PROM QUEEN CANDIDATE

Civil Graduates



HERBERT S. AMOS

One of the few quiet ones in civil, Herb is 27 years old, was schooled in Victoria, B.C. and The Pas. Married this summer, he finds recreation in hunting and fishing, curling and photography. Herb intends to make a career with CNR.



ERIC ANDERSON

Rick rose via United College. He was active in all sports until taking the big step this year. He is now an honorary member of the "Anklerunners." Future in the construction field.



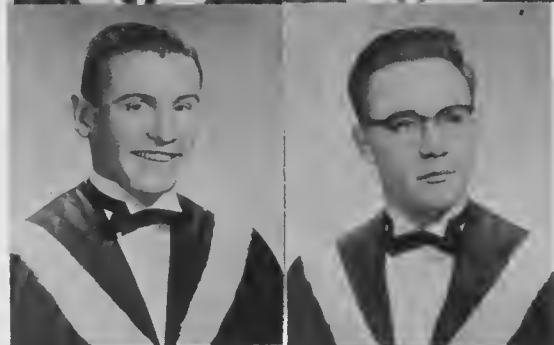
LAWRENCE A. BUHR

Has been an inmate of our fair residence for four years, which explains his "big bony" build. Larry takes a keen interest in sports and bridge, and of late has been referred to as "Casanova." Future undecided — perhaps post-grad work.



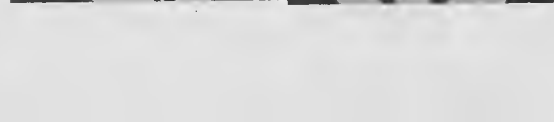
WILLIAM H. BUTTERFIELD

A "keener" from McCreary where he received his early education and was active in student affairs, 4-H, and sports. Recipient of multi scholarships, Bill will go a long way in the structural work, after post grad.



CECIL B. DAWLEY

Cece hails from Carroll by way of Souris. He successfully divides his summer time among Highways Dept., baseball, and the nurses of Ninette. Active in other "sporting" activities, his ambitions include a master's degree and a T-Bird.



WILLIAM DE VRIES

"Big Bill" is one of the old bulls of the basketball herd. Member of the "straight C" club, Bill's future lies in Mexico as a millionaire tequilla distiller. He plans to buy a Viscount within five years.

KENNETH C. M. FERGUSON

"Fergy" came on the scene in 1953 from Great Falls, Manitoba, where his earlier education was completed. The ensuing "six year plan" denies a keen aptitude to civil engineering. Future plans include post graduate work in English 204.

RICHARD G. GAME

A Kelvin grad who tried his hand at banking and RCAF before acquiring a wife and a B.Sc. Addicted to fishing trips and his favorite pipe. Future undecided, but Dick's sincerity and ability will help him in whatever field he chooses.

TOM C. GARDNER

The "Souris Scourge," Tom is a lawman's nightmare with his black and white ragtop. His plans include marriage to the St. Boniface Hospital, and perfection of his sewer design for the Health Dept.

EDWARD H. GERES

DMCI grad. Ed is an airplane enthusiast who owns a pilot license. He has spent a few summers with the army engineers and is now a Lieut. Future is bright as a production engineer.

Civil Graduates

ROBERT O. HAMILTON

"Dougan" — one of the remaining G.B. grads — Engineering hockey stalwart—can usually be seen sprawling around the res. dance on Friday nights — favorite saying "TFAOABBLT." Ambition is to design better roads so he can stop driving on the sidewalks.

WILLIAM HANUSCHUK

The Transcona Tramp is tops in his class—last year's Isbister—but finds time for SEIC, hustling, and sports. After working in various provinces in Canada, Bill has decided that the wild west is best. Future includes construction.

JOHN L. HILEY

"Great Zot!" Entered Engineering via Gordon Bell. John finds time to star in sports, and holds records in chair jumping and losing flips for coffee. Ambition is to work in South America and to up the world's rubber production.

CHARLES D. HOLMES

Already has a B.Sc. degree from Manitoba. A member of the "Old Married Men's Club." Favorite expression—what's the name of the game chaps. Loves sleeping and playing sailor. Plans to obtain a Master's Degree in Traffic Engineering.

JOHN A. KNOWLES

Graduate of Binscarth High. Plans to settle down in Northern Saskatchewan where his interests lie, after graduation this spring. Favorite expression: "Hey Smendziuk, you going to the Candy Store today?"

DONALD F. LAMB

Better known as the "Brandon Bun," this lad is the Sigma Phi Delta Fraternity's noisiest member. Ambition is to look old enough to escape the "let's see your birth certificate" routine.

MURRAY LONG

A Kelvin grad., Murray took the big step last summer and is already one of the "Old Married Men." Can frequently be seen after classes at an intersection counting cars in preparation for his future in traffic engineering.

CLEMENT J. LOVE

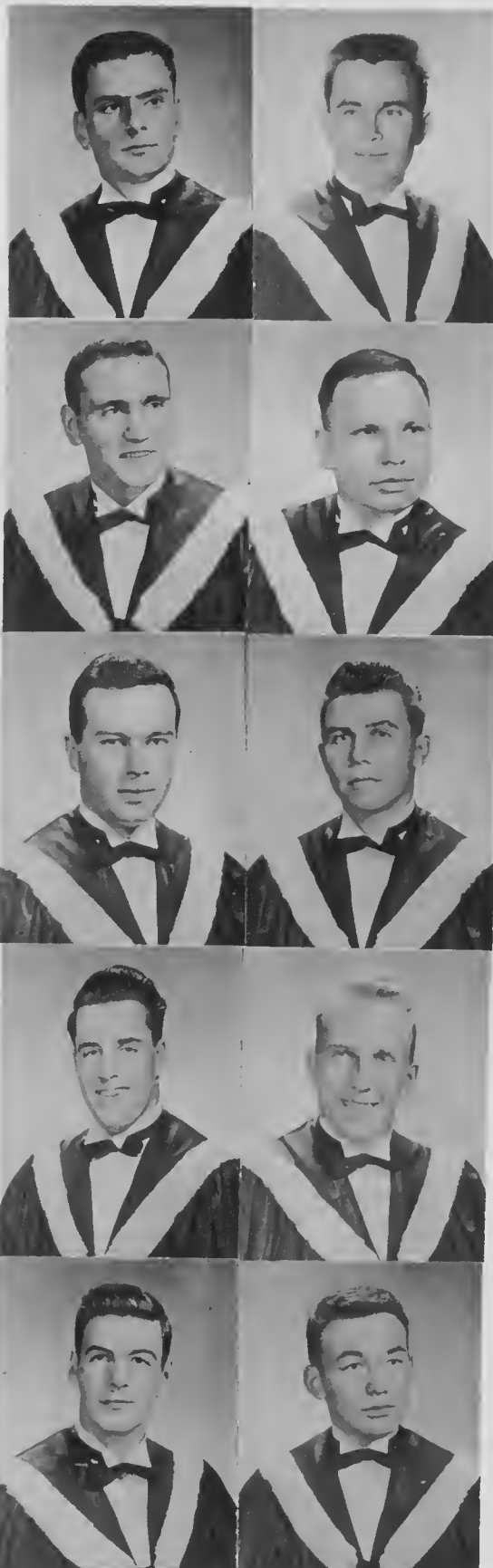
Norwood Boy! Entered Engineering via Norwood Collegiate and United College. Business interests frequently call him to Elm Creek. Future lies in construction.

ALAN C. MACKAY

"Two Shot Al," is a native of Keewatin, Ontario and graduated from Kenora Collegiate. His future is as yet undecided. He spent the last summer at Thompson, Manitoba, where we understand he was quite the man about town.

J. C. MARVIN

J. C., who is game for anything that spells "fun," hails from Grande Prairie, Alberta, and has taken part in many Engineering activities. J. C. eats lunch during lectures as long as he has any, is an ardent athlete. Ambition: "to get out of debt."



Civil Graduates

IAN F. McINTOSH

A Kelvin graduate, Ian is a member of Phi Delta Theta Fraternity; developed his continental line through world travels with the UNTD; is still a member of the active Naval Reserves; and lights up the whole front row when he blushes. Future is in concrete structures.

WILLIAM MILLER

Bill was born and educated at Winkler, Manitoba, and graduated from Winkler Collegiate. He worked for a number of years between grade twelve and University, and between first and second year Engineering. Bill's hobbies revolve about retail outlet stores and the Golden Gate Cafe. Future plans are unknown.

S. C. PENG

"Ping Pong Peng", as he is known to his classmates, comes from Shangton Province, China. He fought with the American Army in Korea, before coming to the U. of M. Peng is a keener and one of the few clued in cats in the class. His ambition is to pass English 204.

LEONARD L. POKRANT

Graduate of Altona Collegiate, Len worked up north in Kelsey last summer and is undecided about his future. Ambition is to own a sports car and to get past the sixth round. A hard worker, Len will go places.

BARRY W. PRENTICE

The pride of Souris Collegiate, Barry is a keener?, and a member of the Hotelmen's Association. He is an Ontario Highways Department "hardrock," but his ambition in life is to work for big money so he can buy a new Ford with his first paycheck.

BARTON J. ROSSEN

A big man in the Lumber Industry, Bart came to the campus via Kelvin High School. As well as participating in curling and rifle teams, Bart was an active member of Sigma Alpha Mu Fraternity. Although in good health, General Hospital seems to hold a great attraction for him . . . Future?? Post grad work in Business Administration.

LAWRENCE F. SCHMIDT

Lawrie comes to us from D.M.C.I. and United College. One of the many married men of the class, he is active in Kappa Sigma Kappa Fraternity and is distinguished by his little red car. Lawrie's future interests lie in the concrete and consulting fields.

GEORGE SCHULTZ

Geo. hails from D.M.C.I. and is a staunch supporter of football and hockey. Always thinks they do it a better way at Dominion Bridge. This might account for George's being a keener?? Future looks promising as a structural designer.

MURRAY W. SLEZAK

"Slippery Slez" hails from Brandon area. An all-star on the ankle runners as well as in other fields. Excels in all sports. As a family man, Murray is showing fine fettle. Future lies in construction.

EDWARD SMENDZIUK

Hails from Fishing River and graduated from Dauphin College. He is one of the fortunate fellows who owns a car of his own and supplies a fairly regular taxi service to the Soda Shop. Ed plans on doing post-graduate work. (In addition to taking the big step?)

Civil Graduates

KENNETH W. SPENCER

Comes from Swan River. Troubles with the dean and landlords have failed to change his carefree outlook on university life. His main interest centres around the arrival of N.W. Orient.

THORVALDUR STEFANSON

A grad of Riverton High School and a serious hard worker. Thor has won several scholarships and should go far. Spends his dimes at the dime store.

ROBERT M. STOKES

A Viscount Alexander grad who is interested in golf, hunting, and social workers. At present studying elements with a Poisson's ratio of greater than 0.5, his ambition is to finish university.

DOUGLAS STRANG

Originally from Brandon, Doug is a member of the SPD frat. He is best known for his unshakable good humor. Although a chap of varied interests, he has maintained a good scholastic standing. Bright future.

GERALD B. STRANGE

Kenton is home town to this lad. Known to his friends as the "strangler," his amorous connections are secret. When not curling he is a concrete construction expert.

GEORGE G. SWAN

Gary received early education at Norwood Collegiate, is coach and part of the invincible wall of the engineer's football team. "Daddy" is active in SEIC and Phi Kappa Pi frat. Future lies in consulting engineering.

GORDON TARAPASKY

Alias—Trapsky, a G.B. grad. Mastermind in crashing local high spots ie. Normandy. Activities centre around the Misericordia Hospital. Gord is one of the boys, and loyal member of the 3.147 club. Famous last saying—"what's the best drink in the house?"

JOHN G. THOMAS

"Tack" came to engineering from science 11 after completing his secondary education at "PLAP" Collegiate. A true engineer in the raw, Jack has a son who drinks "Frontier". Jack's interests include curling, fine art, and ranching. Future??

EDWIN T. WAGNER

God's gift to Minitonas for the past years. Tony is an ardent member of the RCAF with another three years to go. Often seen window shopping, but rarely buying at Eatons. Know someone there?

EDWARD WIEBE

A refugee from electrical who joined civil ranks because of a remarkable aptitude for downing forty. Hobbies include sleep, chicks. Favorite saying—"Let's go for coffee". Comes from Niverville but is niver there. Uncertain future.





Civil Graduates

VICTOR H. WICKBERG

WALTER WOLFE

"Buts" graduated from Brandon Collegiate in 1956 and proceeded to engineering. He is one of few to make the four year plan. Newly acquired hobbies include diaper changing. His future plans lie in "Better Homes and Gardens" for the residents of Brandon.



WENDY NOREEN WOODS

A graduate of Glenlawn Collegiate, she has spent four years sabotaging the jokes of the profs. For obvious reasons she has piled up a prodigious list of engineering firsts. These include: first lady stick of engineering, first engineer president of woman's association, first engineering member of Gamma Phi Beta sorority, first freshie queen picked from faculty, first engineer on varsity cheerleading squad, and first woman on engineering council. An ardent "roadrunner."

Geological Graduates

CARL ANDERSON

"Cutie" comes to us by way of the Lakehead Technical Institute. The quiet man of the class, he is a stalwart at Geology Club, UMSU coffee breaks, and hockey games. He donated two teeth to the cause of better goal tending for the ankle runners. Presently single, Carl maintains a bachelor suite. Future—Hard rock geology.

BRIAN F. WATSON

Brian came to engineering from DMCI, and spent first year as rep. A strong advocate of regular coffee breaks for geology students he has future plans including a master's degree, marriage and hard rock mining.



ALLAN G. STEVENSON

"Big Steve" is a charter member of the Club. The sport of the geology department, he participates in most sports, and has been on interfaculty teams in hockey and curling. Interests include Geology Club, UMES council, and the General Hospital. Future includes job in oil business and marriage to a nurse.

ELECTRICAL ENGINEERING



Miss Mary Anne Dudka

POWER PROM QUEEN CANDIDATE

Electrical Graduates

ROY BILLINGTON

The soccer star of Engineering. Between raising a family and reading westerns Roy has time to "ace" exams. He is an electrician who spends his summers working in the northland; a transplanted man who still plays rugger and cricket.

WILLIAM D. BUHR

High school at Morden, Manitoba. Staunch stalwart of the Manitoba Hydro Electric Board. Member of the Married Man's Club.

ROBERT J. BURNS

A refugee from D.M.C.I. Keen amateur radio enthusiast who intends to do graduate work. Member of the Married Man's Club with results to prove it.

JOHN C. CHAN

Student of the Wah Yan College, Hong Kong. Likes Winnipeg's cold weather and warm hearted girls. Enthusiastic badminton player and long distance swimmer.

MELVIN C. CHESLEY

Hails from Winnipeg Beach before doing time at St. John's Tech. One of the harder workers in class. Future marriage if it can be called a future.

ANDREW J. (MATT) DILLON

Home is Sioux Lookout, Ontario. Came to the U. of M. via Peterborough Teachers College and Fort Frances. Spends his summers on the rails as a C.N.R. trainman.

WILLIAM A. FAST

Thrown out of Mennonite Brethren Collegiate Institute. Main interest girls, and he is really fast. Likes Manitoba girls so well he wants to stay here.

KENNETH C. FOSTER

Known as the "quiet man". Student of Greek and, owning a convertible is a keen student of Greek Goddesses. His extra-curricular activities involve more girls.

MURRAY G. FYFE

Released from D.M.C.I. and United College. Member of the Married Man's Club for so long he never speaks except to disagree with Minaker and Mirosh. Enjoys going out for supper with prospective employers.

RONALD J. GIESBRECHT

Attended Gretna Public School and Winkler Collegiate Institute. Has done summer work for D.P.W. as a bridge inspector and intends to stay in Western Canada.

Electrical Graduates

ERIC W. HEIMAN

Calls Winnipeg home. Eric is a "ham" radio operator and for a sporting activity enjoys swimming. He graduated from Minnetonka High School and attended United College.

ALBERT H. HILLIER

Hails from Brandon, Manitoba. Harvey took his senior matric. at Brandon College. He has participated in UMSU radio for three years and was a member of the Amateur Radio Society in fourth year. He is a member of the Institute of Radio Engineers.

DENNIS F. JOHNSON

Dennis was born in Winnipeg and attended Lord Selkirk High School. He was first in class in 1959 and is destined to be first in 1960. His activities include camping and badminton. Dennis intends to take his Master's Degree.

ARTHUR D. JOPLING

After growing up and attending school in Hartney, Manitoba, Arthur stuck it out for four years in residence. He is an I.R.E. student member and interested in curling and golf. He says his future is questionable, but whose isn't.

IAN E. LAUCLAN

Alias Haggis, the grinder. Ian is proud to call Pine Falls home. His first love is hockey, and he has spent several years on championship Engineering teams. His dream is to be a pilot or aeronautical engineer. Post-Grad work a sure bet.

JUNG MAR

Pronounced *tʃ?: Left Hong Kong to attend St. John's High School and United College. Likes basketball, swimming and photography. Jung reads deeply into philosophy and world literature.

MORLEY A. McKENZIE

A refugee from Flin Flon who "claims" he is happily married. He spent two years with the R.C.A.F. and worked at mining and electrical apprenticeship before returning to school.

GEORGE C. MINAKER

Laughing Boy. Attended St. James Collegiate and United College. George played football for Weston Wildcats and lists his accomplishment as a happy marriage, with a daughter for proof.

EDWARD MIROSH

"Easy ED". Outlook on life: "take it cool". Claims he attended Gordon Bell High School but will the school admit it? Ed is a frat member, known to all as the sportiest dresser in class (he hopes).

WILLIAM PAETKAU

Bill's home town is Rosenfeld, Manitoba. He attended high school in Gretna before coming to the U. of M. Bill spent the summer doing topographical survey work. The "rifleman" has a long list of honors for target shooting.



Electrical Graduates

EDWARD E. PASCAL

Another fugitive from St. John's High School, Ed is very electronically minded. Member of UMSU Amateur Radio Society and has worked for C.B.W.T. The future holds marriage to a beautiful redhead in May.

F. LAWRENCE PEDRICK

La fights his way in from Transcona every morning. He is an enthusiastic soccer and a curler in his native Transcona, which he avows is the cultural centre of Manitoba. Can be found discussing C.N.R. wage scales with Ron Schriber.

CLARE M. PRATT

Comes from St. Andrew's, near Lockport. Milt took first year Science at United College before entering Engineering. Interests—photography, Hi-Fi, single girls and swimming.

KENNETH J. REINSCH

Graduated from D.M.C.I. "Mr. Ivy League, or Joe College." Ken is involved in a variety of extra curricular activities, including curling, flag football, and volleyball. Currently S.E.I.C. chairman and Engineering Curling Club Convener.

OTFRIED C. RIML

Comes from Grax, Austria, and graduated from the first Bundesrealgymnasium. Has been doing well in engineering since coming to Canada in 1956. Single, he should be a good match for some girl.

ALLAN H. ROBBINS

VINCENT C. ROWE

One of the power boys. Vince comes from Flin Flon. He is a sports enthusiast, some of his interests being baseball, curling and waterskiing. Future lies in sales engineering.

CLARE A. SAMMONS

Andy is a product of United College who has worked for CBWT and Manitoba Telephones, and looks for a future in communications. He is usually to be found discussing electronics with Ken Foster.

CHARLES A. SANKEY

Ejected from D.M.C.I., Chucle is a recent addition to the Married Man's Club and wears a satisfied smirk as proof.

RONALD R. SCHRIBER

An ardent sportsman, Ron is Engineering sports chairman this year. Name the sport and he plays it. A sea cadet officer in the band, Ron plays a mean trombone. If you are interested in swimming Lake Winnipeg, he will pace you. Future as electrician with C.N.R. Ron is single, but, using Ponds, is no doubt lovely and engaged.

Electrical Graduates

IZZY SHORE

Product of St. John's High, Izzy won the Professional Engineers of Manitoba scholarship in first year, and intends to take post graduate work in the Power option. His hobbies are sports cars and hi-fi, and he is a bowling enthusiast.

ROBERT W. TAYLOR

Bob continues to maintain a high average while watching all TV shows. He is a product of Kelvin, and a member of the champion inter-faculty soccer team. He consistently vows that he will not go out on the town with Lauchlan again but always ends up doing so.

WILLARD THIESSEN

Will is from Grassy Lake, Alberta, and graduated from the Alberta Menonite High School. Married man with five-month-old son. He is a keen water sport enthusiast, and is seeking a job in Alberta.

ROBERT C. WILSON

Bob makes his home in Fort Garry, and is the oldest member of the Married Man's club. He has spent some time in Flin Flon, and is an advocate of the Manitoba Northland. He can usually be found bemoaning current affairs with Bob Burns.

RONALD D. ZINC



Engineering Physics Graduates

MABO ITO

A distinguished survivor of residence. Mabo is known far and wide as the "brain" of the 1960 graduates. Favorite saying: "Isn't that sad!" Mabo is also the chief officer of the "Grinder's Club," and calls the library his second home.

MARTIN A. MAYER

Mart is an import from Romania. He runs a fast car pool from the North End and is desolate since the mechanical lab has been closed down. He can be found conducting some mad experiment in the Science building, as he is too dangerous to be let loose in the Engineering building.

MARVIN H. SHEREBRIN

Marv is one of those brainy EP boys whose motto seems to be "all work and no play." He is a "ham" radio operator in his spare time and spent last summer working for the Defence Research Board. Marv is a good prospect for post-graduate work and the future looks very bright.



CLOSING THOUGHTS

Last week the department of entomology made the astounding discovery that grasshoppers have hearing organs located in their legs. An experiment showed that when a vibrating tuning fork was placed near a colony of these insects, they leaped about violently. However, no such reaction was obtained after their legs had been cut off.

* * *

Wife to husband: "You swore terribly at me last night in your sleep."

Husband: "Who was asleep?"

* * *

A man is known by the company he thinks nobody knows he is keeping.

* * *

One of two drunks standing beside a lamp post asked his companion, "Shay, you gotta match?"

"I think sho," said his companion. "Lemme shee." He reached in his pocket, withdrew a stick match and rubbed the unsulfured end on the lamp post several times. "No good," he said finally, and threw it away. He pulled out another and tried again to strike the unsulfured end. "No good," he said again, and threw it away. He reached into his pocket and pulled out another match, and fortunately tried to light the proper end. It blazed up, but immediately blew it out and thrust it into his pocket. "Ah," he beamed, "Thash a good one. Gotta save it."

* * *

"How long have you been driving without a tail light, buddy?" demanded the policeman. The driver jumped out, ran to the rear of his car, gave a low moan. His distress was so great that the cop was moved to ease up on him a bit.

"Aw, come now," he said, "you don't have to take it so hard. It isn't that serious."

"It isn't?" cried the motorist. "What happened to my trailer?"

* * *

Samuel Hopkins Adams, who was always willing to try anything once, had accepted an invitation to a nudist party. Describing the experience to some friends the next day, he said, "They certainly didn't do things by halves. Even the butler who answered the door was completely nude." "If he wasn't uniformed, how do you know it was the butler?" asked Mr. Adams literary-minded publisher. "Well," said Mr. Adams, "It certainly wasn't the maid."

* * *

Coed: "Where is Elsie?"

Housemother: "I don't know. She went to the library."

* * *

A man met a woman singer at a recital. Her lovely voice affected him so strongly that he entirely overlooked her undeniably plain face. In fact, her vocal ability continued to charm him so that he finally asked her to marry him. The lady accepted gladly and the wedding took place.

The following morning, the groom woke first. He raised himself on his elbow and gazed at the face of his sleeping bride. What he saw in the candor of the sun's early rays made him cry out: "Wake up, for heaven's sake, wake up and sing."

* * *

"Dad, what is a traitor in Politics?"

"A traitor is a man who leaves our party for the other side."

"Well then, what is a man who leaves his party and comes over to our side?"

"A convert, my boy."

* * *

Surgeon to attendant: "Get the name of the accident victim so we can tell his mother."

Attendant: (three minutes later) "He says his mother already knows his name."

* * *

Employer: "Are you looking for work, young man?"

Watson: "No, but I would like a job."

* * *

Little boy: "Why is it that cream costs more than milk?"

Milkman: "Because it's harder for the cows to sit on the little bottles."

* * *

The young minister on his first Sunday in his new parish, was faced with a church completely empty except for one weatherbeaten farmer. The young minister said, "Sir, I see you are the only one here this morning. Would you like to hear the service, or would you rather just go home?"

The farmer replied: "Son, I don't know much about preaching, but I do know about cows. When I take a load of hay out to the cows, and only one shows up, I still feed that one cow."

The minister was very touched by this, and he launched into his service with zeal. He gave a long sermon, called for several hymns, and put forth what he considered was a first rate service. At the end he went down to the farmer and said: "How did you like the service, sir?"

The farmer replied: "Son, I don't know much about preaching, but I do know about cows. When I take hay out to feed the cows, and only one cow shows up, I surely don't feed him the whole load."

* * *

We hope that you have derived as much enjoyment from reading this issue as we have from compiling it.

Ed.

